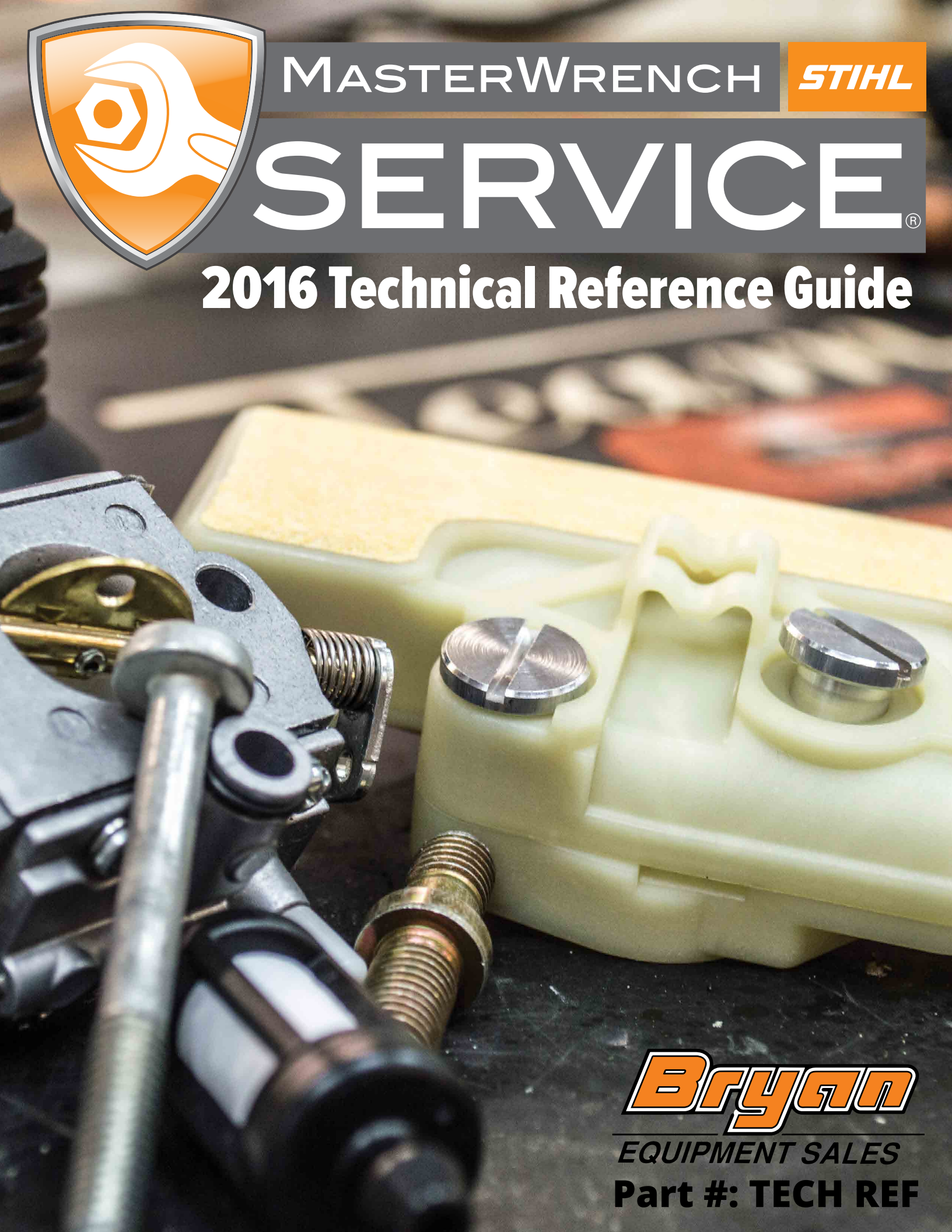


MasterWrench STIHL

SERVICE®

2016 Technical Reference Guide

Bryan EQUIPMENT SALES

Part #: TECH REF

Technical Reference Guide

Bryan EQUIPMENT SALES

Generations of STIHL®

CHAIN SAWS		
Series	**Model**	**Production Years**
1101	BL	1952-1959
1102	BLK	1954-1966
1106	Contra 06	1959-1968
	Contra S 06	1964-1968
	Contra 070	1959-1968
	070	1968-1977
	090	1968-1977
1107	07	1961-1965
	07S	1965-1968
1108	08	1963-1965
	08S	1965-1994
	S10	1968-1973
1109	090G	1969-1985
1110	040	1966-1967
	041	1967-1975
	041FB	1976-1986
	041AV	1967-1986
	041AVE	1968-1973
	041AVS	1977-1983
	041AVQ	1981-1985
1111	050	1968-1972
	051	1972-1985
	075	1974-1980
	076	1980-1986
1112	041G	1969-1975
1113	030	1970-1971
	031	1971-1982
	031E	1973-1982
	031Q	1980-1982
	032	1978-1985
1114	020	1971-1979
	020AVP	1972-1979
	020 Super	1979-1994
1115	045	1974-1980
	045 Super	1977-1980
	056AV	1980-1985
	056AVSE	1980-1984
1116	015	1973-1980
	015L	1973-1983
	015AV	1976-1983
	015AVE	1974-1983
	015AVEQ	1978-1983
1117	042AV	1976-1980
	048	1980-1985
1118	028AV, 028WB	1979-1980
	028AVEQ	1979-1983
	028AVS	1983-1990
1119	038AVE	1980-1985
	038AVEFB	1983-1985
	038AVS	1982-1985
	038AVSFB	1985-1993
	038AVM	1984-1989
	038 MAGNUM®	1985-1997
1120	09 Mini Boss™	1993-2006
	009	1980-1989
	009LE	1982-2009
	010AV	1978-1982
	010AVE	1982-1985
	011AVEQ	1980-1990
	011AVT	1980-1982
	011AVET	1982-1996
	012AVE	1986-1994
	012AVET	1986-1989
1121	024AVEQ	1982-1985
1121	024AVEQWB	1985-1994
	024AVES	1984-1989
	026	1988-2002
	026 Pro	1996-2002
	MS 260, 260 P	2002-2011

Series	Model	Production Years
1122	064AV	1986-1997
	066	1988-2003
	MS 660	2004-2014
	MS 6w50	2005-20012
1123	021, 023	1990-2002
	023C, 023L	1996-2002
	025	1991-2002
	MS 210	2002-2008
	MS 230	2002-2012
	MS 250	2002-Current
1124	084	1985-1997
	088	1997-2004
	MS 880	2004-Current
1125	034AV	1984-1993
	036	1991-2001
	036 Pro	1996-2001
	036QS	1997-2002
	MS 360, 360 P, 360QS	2002-2005
1127	029, 039	1992-2000
	MS 290	2000-2012
	MS 310, 390	2000-2009
1128	004	1988-2001
	046	1996-2001
	MS 440	2001-2012
	MS 460	2001-2012
	MS 461	2013-Current
1129	020T	1996-2002
	MS 200 T	2002-2012
1130	017	1995-2002
	018	1999-2002
	MS 170, 180	2002-Current
	MS 180 C-B	2002-2012
1132	019T	1997-2002
	MS 191 T	2002-2006
1133	MS 270, 280	2003-2010
1135	MS 361	2004-2010
1137	MS 192 T	2005-2014
	MS 193 T	2014-Current
1138	MS 441	2007-2012
	MS 441 C-M	2011-Current
1139	MS 171, 181, 211	2009-Current
1140	MS 311, 391	2009-Current
	MS 362, 362 C-MQ	2010-2014
	MS 362 C-M	2014-Current
1141	MS 271, 291	2010-Current
	MS 261	2010-2014
	MS 261 C-M, 261 C-MQ	2014-Current
1143	MS 241 C-M, 241 C-MQ	2014-Current
	MS 251, 251 C-BE	2013-Current
1144	MS 661 C-M	2014-Current
1145	MS 201 T C, 201 C	2011-2015
	MS 201 T C-M, 201 C-EM	2015-Current
1146	MS 150 C-E, MS 150 T C-E	2013-Current
ELECTRIC CHAIN SAWS		
1202	E30	1967-1985
1203	E15	1967-1985
1204	E10	1973-1984
1206	E14	1984-1997
1207	E20	1985-1998
	E220Q	1999-2002
	MSE 220	2003-2014
1208	E140, E180	1998-2002
	MSE 140, 180	2003-2014
1209	MSE 170 C-BQ, 210 C-BQ	2014-Current
1210	MSE 250 C-Q	2015-Current

Bryan EQUIPMENT SALES

Generations of STIHL®

POWER TOOLS		
Series	**Model**	**Production Years**
4104	FS 08	1969-1976
4106	FS 20	1969-1977
4108	FS 353	1979-1986
4109	FS 200, FS 202	1975-1983
4110	FS 410	1976-1986
4111	FS 150, 151	1976-1983
4112	FS 80	1977-1983
	FS 80E	1983-1984
	FS 80AVE	1983-1986
4114	FS 60	1979-1981
	FS 61	1980-1983
	FS 61E	1982-1986
4116	FS 360	1986-1997
	FS 550	1997-2012
	FS 420	1990-1997
4117	FS 90AV (OLD)	1982-1987
4118	FS 50	1983-1984
	FS 51	1984-1986
4119	FS 160	1987-1989
	FS 180	1987-1997
	FS 220	1987-1989
	FS 280 K	1988-1997
4121	FS 65	1983-1986
4122	FS 62	1986-1988
4123	FS 66	1986-1994
4124	FS 81AVE	1988-1995
4125	FS 48	1987-1989
	FS 52	1986-1988
	FS 56	1988-1994
4126	FS 81, 86	1986-1994
	FS 88	1995-1996
4127	FS 96	1986-1989
4128	FS 450	1997-2011
4129	FS 106	1990-1994
4130	FS 36	1990-2000
	FS 40, 44	1990-1999
	FC 44	1994-2000
4132	FR 106	1990-1996
4133	FS 72, 74, 76, FC 72	1992-1996
4134	FS 120, 200	1997-2000
	FS 250	2001-2014
	FS 350	1997-2015
	HT 250	2006-Current
4135	FS 108	1995-1997
4137	FC 75	1997-2011
	FS 75	1997-2006
	FS 80	1997-2010
	FS 85	1997-2006
	FS 85 RT	2000-2004
4138	HT 75	1997-2005
	HT 70	1999-2004
4139	HT 56 C-E	2010-Current
4140	FS 38	2014-Current
	FS 45, 46	2000-2013
	FS 55, 55 R	2000-2031
	FC 55	2000-2008
	FM 55 RC-E	2005-2008
4141	FS 83, 83 R	2000-2001
4142	HT 73	2001-2005
4144	FS 40, 56	2008-Current
	FS 50 C-E	2013-Current
	FC 56 RC-E	2009-Current
	FS 70 C-E, 70 RC-E	2010-Current
4147	FS 240, 240 R	2014-Current
	FS 360, 460	2013-Current
	FS 360 C-E, 460 C-EM	2014-Current
4148	FS 560 C	2012-Current
	FS 560 C-EM	2013-Current
4149	FS 94	2014-Current
	KM 94 R	2015-Current

Series	**Model**	**Production Years**
4180	FS 90, 100 RX	2002-Current
	FS 110, 110 RX, 130	2002-Current
	KM 100 R, FC 110	2002-Current
	FC 95	2005-Current
	FS 90 R, KM 90 R	2005-Current
	KM 130 R	2006-Current
	FS 310	2010-Current
4182	HT 100, 101	2005-Current
	HT 130, 131	2007-Current
4202	SG 17	1969-1991
	BG 17	1974-1991
4203	BR 320, 400	1989-2001
	GR 340 C, 420 C	2001-2007
	BR 380 D	2005-2010
	SR 320, 400	1989-2001
	BR 420 C MAG	2002-2007
4210	BG 60	1982-1986
	BG 61	1986-1991
4211	HS 60AVE	1984-1992
4222	BR 106	1991-1994
4226	HS 72, 74, 76	1992-1996
	HS 75	1997-2001
	HS 80	1997-2006
	HS 85	1997-2005
4227	BG 75	1996-2000
	BG 72	1992-1997
4228	HS 45	2000-Current
4229	BG 45 C	2003-2006
	BG 45	2000-2006
	BG 50	2015-Current
	BG 55, SH 55, BG 65	2000-2015
	BG 85, SH 85	2000-2010
4230	HL 75 K	1997-2005
	HL 75	1997-2005
4232	HL 45	1999-Current
4233	SP 200	2003-2008
4237	HSE 60	2008-2015
	HS 81 T	2007-2015
	HS 86	2006-2015
	HS 82	2015-Current
	HS 87	2015-Current
4241	BG 56, 66, 86	2008-Current
	SH 56, 86	2008-Current
	BR 200	2011-Current
	SR 200	2014-Current
4242	HS 46, 56	2012-Current
4244	SR 450	2010-Current
	BR 350, 430	2010-Current
	BR 450, 450 C-EF	2015-Current
4255	SG 11, 31, 51, 71	2015-Current
4247	SG 10, SG 20	2006-2014
4280	HL 100 135, 100 0, 100 K 135	2003-Current
	HL 90	2007-Current
4282	BR 500	2005-Current
	BR 550	2005-2015
	BR 600	2006-Current
4601	MM 55, MM 55 C-E	2002-Current
4602	KW 85	2000-2005
4803	FE 55	1992-2002
	BE 55	1994-2000
	EC 70	1994-2001
4807	BGE 60	1999-2009
4809	FSE 60	2003-2008
4811	BGE 61, 71	2008-Current
4812	HSE 60	2008-2015
	HSE 70	2008-Current
4818	HSE 52	2014-Current

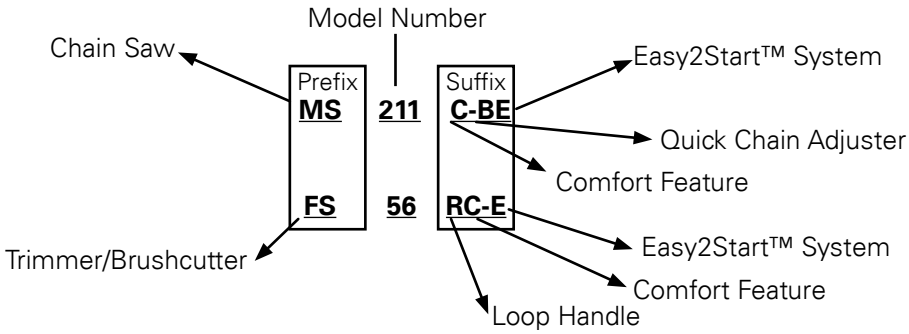
POWER TOOLS (Cont'd)		
LITHIUM-ION		
Series	**Model**	**Production Years**
1250	MSA 160 C-BQ	2011-Current
1251	MSA 200 C-BQ	2014-Current
4851	HSA 65	2012-2013
	HSA 66	2014-Current
4852	FSA 65, 85	2010-Current
4853	BGA 85	2011-Current
4857	HTA 65, 85	2014-Current
4859	HLA 65	2013-Current
	HLA 85	2015-Current
4863	FSA 90 R	2015-Current
4864	TSA 230	2014-Current
4866	BGA 100	2015-Current
6320	RMA 370	2013-Current
INDUSTRIAL		
Series	**Model**	**Production Years**
4201	TS 08	1965-1977
	TS 350	1977-2001
	TS 360AVE	1984-1996
4205	TS 50	1972-1977
	TS 510AVE	1978-2005
	TS 760AVE	1986-2007
4207	TS 200	1974-1979
4221	TS 460AVE	1994-2008
4223	TS 400	1995-2008
4224	TS 700	2005-Current
	TS 800	2006-Current
4238	TS 410, 420	2008-Current
4250	TS 480i	2013-Current
	TS 500i	2012-Current
4252	GS 461	2012-Current
4308	BT 308	1964-1997
	BT 360	1996-1997
4309	BT 309	1966-1997
4311	BT 106	1991-1999
4313	BT 120 C	1999-2005
	BT 121	2005-2013
	BT 130	2014-Current
4314	BT 45	2002-Current
CLEANING SYSTEMS		
Series	**Model**	**Production Years**
4703	RE 110 K	1990-1993
4709	SE 100	1990-1996
4710	RB 400	1990-1996
4718	RB 220 K	1990-1996
4719	RE 102 K	1990-1996
4758	SE 61	2010-2014
4774	SE 122	2010-Current
4784	SE 62	2014-Current
CHAIN GRINDERS		
Series	**Model**	**Production Years**
5202	HOS	2001-Current
5203	USG	2001-Current

STIHL® Model Codes

Prefix	
BF	Pick Style Tines
BG	Handheld Blower
BGA	Lithium-Ion Handheld Blower
BGE	Electric Handheld Blower
BK	Bolo Style Tines
BR	Backpack Blower
BT	Earth Auger, Drill, and Boring Gear
FC	Grass Edger
FH	Power Scythe
FS	Trimmer/Brushcutter
FSA	Lithium-Ion Trimmer
FSB	Curved Shaft Trimmer for KM
FSE	Electric Trimmer
HL	Extended Reach Hedge Trimmer
HLA	Lithium-ion Extended Reach Hedge Trimmer
HS	Hedge Trimmer
HSA	Lithium-Ion Hedge Trimmer
HSE	Electric Hedge Trimmer
HT	Pole Pruner
HTA	Lithium-Ion Pole Pruner
IEM	Intelligent Engine Management
KB	Bristle Brush
KM	Kombi Motor/ Split Shaft Unit
KW	STIHL PowerSweep™
MF	Lawn Dethatcher
MM	Multi Motor/ STIHL YARD BOSS®
MS	Chain Saw
MSA	Lithium-Ion Chain Saw
MSE	Electric Chain Saw
PA	Professional Axe
PH	Professional Hedge Shear
PL	Professional Lopper
PP	Professional Pruner
PS	Professional Hand Saw
RL	Lawn Aerator
RMA	Lithium-Ion Lawn Mower
SG	Manual Backpack Sprayer
SH	Vacuum Shredder
SR	Backpack Sprayer
TS	Cut-Off Machine/Cutquik®
TSA	Lithium-Ion Cut-Off Machine Cutquik®

Suffix	
AV	Anti-Vibration
B	Quick Chain Adjustment
C	Comfort can have one or more of the following features: Easy2Start™, Quick Chain Adjuster, ElastoStart™
D	Catalytic Converter
E	Electronic Ignition (Designation for older models- no longer used)
E	Easy2Start®
FB	FARM BOSS®
K	Shorter Shaft Length (Extended Reach Hedge Trimmer or Brushcutter)
KM	KombiSystem Motor/Split Shaft Unit
L	Low-Noise
M	STIHL MAGNUM®
MB	STIHL Mini Boss™
Q	STIHL Quickstop®
QS	Second Chain Braking System
R	Wrap Handle (Chain Saw models)
R	Loop Handle (Trimmers and Brushcutters)
R	Rejuvenating Hedge Trimmer Blade (Hedge Trimmer models)
RT	KombiSystem Motor with Loop Handle
S	Super
X	Lightweight Shaft Trimmer w/ Loop Handle
T	Top Handle (Chain Saw)
T	Trimming Hedge Trimmer Blade (Hedge Trimmer models)
W	Heated Handle/Carburetor
WB	STIHL WOOD BOSS®
Z	Fire Safe Muffler - **For Sale in USA**

Examples:



STIHL® Service Kits

CHAIN SAW SERVICE KITS			
PART #	**DESCRIPTION**	**COMPONENTS**	
1130 007 1800	1130 Tune-Up Kit: MS 170/180	Air Filter	1130 124 0800
		Fuel Filter	0000 350 3500
		NGK BPMR7A	0000 400 7000
1139 007 1800	1139 Tune-Up Kit: MS 171/ 181/211	Air Filter	1139 120 1602
		Fuel Filter	0000 350 3500
		NGK CRM6H	0000 400 7011
1123 007 1800	1123 Tune-Up Kit: MS 210/230/250	Air Filter	1123 120 1613
		Fuel Filter	0000 350 3500
		NGK BPMR7A	0000 400 7000
1143 007 1800	1143 Tune-Up Kit: MS 251	Air Filter	1141 120 1600
		Fuel Filter	0000 350 3504
		NGK BPMR7A	0000 400 7011
1127 007 1800	1127 Tune-Up Kit: MS 290/310/390	Air Filter	1127 120 1621
		Fuel Filter	0000 350 3500
		NGK BPMR7A	0000 400 7000
1141 007 1800	1141 Tune-Up Kit: MS 271/291	Air Filter	1141 120 1600
		Fuel Filter	0000 350 3504
		NGK BPMR7A	0000 400 7000
1140 007 1800	1140 Tune-Up Kit: MS 311/391	Air Filter	1140 140 4401
		Fuel Filter	0000 350 3504
		NGK BPMR7A	0000 400 7000

TRIMMER/EDGER/KOMBISYSTEM SERVICE KITS			
PART #	**DESCRIPTION**	**COMPONENTS**	
4144 007 1800	4144 Tune-Up Kit: FC 56/70, FS 40/ 56/70, HT 56, KM 56	Air Filter	4144 124 2800
		Fuel Filter	0000 350 3513
		NGK CRM6H	0000 400 7011
4140 007 1800	4140 Tune-Up Kit: FS 45/46/55, HL 45, KM 55	Air Filter	4140 124 2800
		Fuel Filter	0000 350 3506
		NGK BPMR7A	0000 400 7000
4137 007 1800	4137 Tune-Up Kit: BG 75, FS 75/80/ 85, KM 85, HT 75	Air Filter	4137 124 2800
		Pre-Filter	4137 124 1500
		Fuel Filter	0000 350 3502
		NGK BPMR7A	0000 400 7000
4180 007 1800	4180 Tune-Up Kit: FC 90/95/100/110, FS 90/100/110, HL 90/100, HT 101, KM 90, KM 110	Air Filter	4180 120 1800
		Fuel Filter	0000 350 3502
		BOSCH USR7AC	0000 400 7009

BLOWER/SPRAYER/SHREDDER SERVICE KITS			
PART #	**DESCRIPTION**	**COMPONENTS**	
4229 007 1800	4229 Tune-Up Kit: BG 50/55/65/85, SH 55/85	Air Filter	4229 120 1800
		Fuel Filter	0000 350 3502
		NGK BPMR7A	0000 400 7000
4241 007 1800	4241 Tune-Up Kit: BG 56/66/86, BR 200 SH 56/86 SR 200	Air Filter	4241 120 1800
		Fuel Filter	0000 350 3502
		NGK CRM6H	0000 400 7011
4282 007 1800	4282 Tune-Up Kit: BR 500/550/600	Air Filter	4282 141 0300
		Fuel Filter	0000 350 3514
		Fuel Filter	0000 350 3502
		NGK CRM6H	0000 400 7011
4244 007 1800	4244 Tune-Up Kit: BR 350/430/450/450 C-EF SR 430/450	Air Filter	4223 141 0300
		Fuel Filter	0000 350 3502
		NGK CRM6H	0000 400 7000

STIHL® Tune Up Component Charts

STIHL Chain Saw Tune Up Component Chart

STIHL Model	Air Filter	Spark Plug	Fuel Filter	Rope Diameter	Rope Length	ElastoStart™	Ignition Lead
*009L, *011T, *012	1120 120 1600	0000 400 7000	0000 350 3502	3 mm	38 orange 42 grey	N/A	14.2 in
MS 150 C-E	1146 140 4403	0000 400 7011	0000 350 3515	2.7 mm	31.5 in	M/A	N/A
*017, *018 C MS 170, MS 180 C	1130 124 0800 *1130 124 0801 *Heavy duty	0000 400 7000	0000 350 3500	3 mm *2.7 mm *Easy2Start™	31.5 in *36 in *Easy2Start™	0000 190 3402 *N/A *Easy2Start™	N/A
MS 171	1139 124 0800	0000 400 7011	0000 350 3500	3 mm	33.5 in	0000 190 3402	N/A
MS 181, 211	1139 120 1602	0000 400 7011	0000 350 3500	3 mm	33.5 in	0000 190 3402	N/A
MS 181 C-BE MS 211 C-BE	1139 120 1602	0000 400 7011	0000 350 3500	2.7 mm	36 in	N/A	N/A
*019 T, *MS191 T	1132 124 0800	0000 400 7000	0000 350 3502	3 mm	31.5 in	N/A	N/A
*MS 192 T	1137 120 1600	0000 400 7000	0000 350 3502	3 mm	31.5 in	0000 190 3402	N/A
*MS 192 rear handle	1137 120 1603	0000 400 7011	0000 350 3502	*2.7 mm *Easy2Start™	31.5 in	N/A	N/A
MS 193	1135 120 1604	0000 400 7011	0000 350 3502	3 mm	34 in	N/A	N/A
*020 T, *MS 200 T	1129 120 1607	0000 400 7000	0000 350 3504	3 mm	29.5 in	0000 1910 3409	12 in
*MS 200 rear handle	1129 120 1604	0000 400 7000	0000 350 3504	3 mm	29.5 in	0000 1910 3409	12 in
MS 201 T C-M	1145 140 4404	0000 400 7011	0000 350 3500	3 mm	29.5 in	N/A	N/A
*MS 201, 201 T	1145 140 4400	0000 400 7011	0000 350 3500	3 mm	29.5 in	N/A	N/A
*021, *023 MS 210, 230	1123 120 1613 *1123 120 1651 *includes base	0000 400 7000	0000 350 3500	3 mm *2.7 mm *Easy2Start™	31.5 in *36 in *Easy2Start™	0000 190 3402 *N/A *Easy2Start™	6.9 in
*024	1121 120 1625	0000 400 7000	0000 350 3504	3.5 mm	38 in	0000 190 3401	5.9 in
*025, MS 250	1123 120 1613	0000 400 7000	0000 350 3500	3 mm *2.7 mm *Easy2Start™	31.5 in *36 in *Easy2Start™	0000 190 3402 *N/A *Easy2Start™	6.9 in
MS 241 C-M	1141 120 1604	0000 400 7011	0000 350 3504	3 mm	30 in	0000 190 3409	5.8 in
MS 251	1141 120 1604	0000 400 7011	0000 350 3504	3 mm	31.5 in	N/A	N/A
*026, *MS 260	*1121 120 1618 *compensating **1121 120 1612 **non compensating	0000 400 7000	0000 350 3504	3.5 mm	38 in	0000 190 3401	5.9 in
*026 PRO, *MS 260 PRO	1121 120 1618	0000 400 7000	0000 350 3504	3.5 mm	38 in	0000 190 3401	5.9 in
*MS 261 MS 261 C-M	1141 120 1604	0000 400 7000	0000 350 3515	3.5 mm	38 in	0000 190 3401	6.2 in
*MS 270, 280	1133 120 1604	0000 400 7000	0000 350 3504	3.5 mm	38 in	0000 1901 3401	N/A
MS 271, 291	1141 120 1600	0000 400 7000	0000 350 3504	3.5 mm	38 in	N/A	N/A
*028	1118 120 1611	0000 400 7000	0000 350 3500	3.5 mm	42 in - alum 38 in - plastic	N/A	6.9 in
*029, *029S, *MS 290	*1127 120 1621 *compensating **1127 120 1611 **non compensating	0000 400 7000	0000 350 3500	3.5 mm	38 in	1128 190 3400	6.9 in
*034	*1125 120 1625 *non compensating	0000 400 7000	0000 350 3504	3.5 mm	38 in	1128 190 3400	7.7 in
*036, *MS 360	*1127 120 1621 *compensating **1127 120 1611 **non compensating	0000 400 7000	0000 350 3504	3.5 mm	38 in	1128 190 3400	7.7 in
*036 PRO *MS 360 PRO	1125 120 1626	0000 400 7000	0000 350 3504	3.5 mm	38 in	1128 190 3400	7.7 in

*Discontinued Models

STIHL® Tune Up Component Charts

STIHL Chain Saw Tune Up Component Chart (Cont'd)

STIHL Model	Air Filter	Spark Plug	Fuel Filter	Rope Diameter	Rope Length	ElastoStart™	Ignition Lead
*036QSII, *MS 360 QS	1125 120 1626	0000 400 7000	0000 350 3504	3.5 mm	38 in	1128 190 3400	7.7 in
*038	1119 120 1611	0000 400 7000	0000 350 3500	4.5 mm	39.5 in	1122 190 3400	5.5 in
*MS 361	1135 120 1600	0000 400 7000	0000 350 3504	3.5 mm	38 in	1128 190 3400	4.3 in
*039, *MS 310, *MS 390	*1127 120 1621 *compensating **1127 120 1611 **non compensating	0000 400 7000	0000 350 3500	3.5 mm	38 in	1128 190 3400	6.9 in
MS 311, MS 391	1140 140 4401 (Fleece) 1141 120 1600 (HD2)	0000 400 7000	0000 350 3504	3.5 mm	31.5 in	N/A	N/A
*MS 362	1140 140 4401 (Fleece) 1141 120 1600 (HD2)	0000 400 7000	0000 350 3504	3.5 mm	38 in	1128 190 3400	8.1 in
MS 362 C-M	1141 120 1604	0000 400 7000	0000 350 3504	3.5 mm	N/A	1128 190 2900	8.1 in
*004, *046 M, *MS 440, *MS 441, MS 441 C-M, *MS 460, MS 461	0000 140 4402	0000 400 7000	0000 350 3515	3.5 mm	38 in	1128 190 3400	5.9 in MS 441 = 9 in
*MS 460 R, 461 R	0000 140 4402	0000 400 7000	0000 350 3504	3.5 mm	38 in	1128 190 3400	6 in
MS 461	0000 140 4402	0000 400 7000	0000 350 3504	3.5 mm	37 in	1128 190 3400	6.5 in
*066 M, MS 650, 660	0000 140 4402	0000 400 7000	0000 350 3504	4.5 mm	39.5 in	1128 190 3400	7.3 in
MS 661 C-M	1144 140 4400	0000 400 7000	0000 350 3504	4.5 mm	N/A	1128 190 3400	8.7 in
*088M, MS 880	0000 140 4402	0000 400 7000	0000 350 3504	4.5 mm	39.5 in	1128 190 3400	7.9 in

STIHL Pole Pruner Tune Up Component Chart

STIHL Model	Air Filter	Spark Plug	Fuel Filter	Rope Diameter	Rope Length	ElastoStart™	Ignition Lead
*HT 75	4137 124 2800	0000 400 7000	0000 350 3502	3 mm	31.5 in	0000 190 3403	N/A
*HT 70	4137 124 2800	0000 400 7000	0000 350 3502	3 mm	31.5 in	0000 190 3403	N/A
HT 100, 101	4180 120 1800	0000 400 7009	0000 350 3502	3 mm	33.5 in	N/A	N/A
HT 130, 131	4180 120 1800	0000 400 7011	0000 350 3502	3 mm	33.5 in	N/A	N/A
HT 250	4134 141 0300	0000 400 7000	0000 350 3506	3 mm	33.5 in	N/A	N/A
HT 56	4144 124 2800	0000 400 7011	0000 350 3513	2.7 mm	40 in	N/A	N/A

STIHL Blower Tune Up Component Chart

STIHL Model	Air Filter	Spark Plug	Fuel Filter	Rope Diameter	Rope Length	ElastoStart™	Ignition Lead
*BG 45, 55, 65, 85	4229 120 1800 **4142 140 4401	0000 400 7000	0000 350 3502	3 mm	42 in	N/A	N/A
BG 50	4229 120 1800	1110 400 7005	0000 350 3502	3 mm	41.5 in	N/A	N/A
BG 56 C-E, 66 L 86, 86 C-E SH 56 SH 86	4241 120 1800	0000 400 7011	0000 350 3502	3 mm *3 mm *Easy2Start™	42 in *42 in *Easy2Start™	0000 1900 3404 *N/A *Easy2Start™	N/A
BG 86 (Newer)	4241 140 4400	0000 400 7010	0000 350 3502	3 mm	42 in	0000 190 3404	N/A
*SH 55, 65, 85	4229 120 1800 **4142 140 4401	0000 400 7000	0000 350 3502	3 mm	42 in	N/A	N/A
BR 200, SR 200	4241 120 1800	0000 400 7011	0000 350 3502	3 mm	42 in	N/A	N/A
*BR 230, 400	4203 141 0300 4203 141 0310	0000 400 7000	0000 350 3502	3.5 mm	38 in	0000 190 3401	10.6 in
*BR 340, 380, 420 C	4203 141 0301 4203 120 1500	0000 400 7000	0000 350 3502	3.5 mm	38 in	0000 190 3401	10.6 in
BR 350, 430	4223 141 0300	0000 400 7000	0000 350 3502	3.5 mm	38 in	N/A	N/A
BR 450, 450 C-EF	4223 141 0300	0000 400 7000	0000 350 0502	3.5 mm	38 in	0000 190 3401	N/A
*SR 420 C	4203 141 0301 4203 120 1500	0000 400 7000	0000 350 3502	3.5 mm	38 in	0000 190 3401	10.6 in
SR 450	4223 141 0300	0000 400 7000	0000 350 3502	3.5 mm	38 in	0000 190 3401	N/A
BR 500, 600	4282 141 0300	0000 400 7011	0000 350 3502	3.5 mm	38 in	N/A	N/A
*BR 550	4282 141 0300	0000 400 7011	0000 350 3502	3.5 mm	38 in	N/A	N/A

*Discontinued Models

STIHL® Tune Up Component Charts

STIHL Trimmer/KombiSystem Tune Up Component Charts

STIHL Model	Air Filter	Spark Plug	Fuel Filter	Rope Diameter	Rope Length	ElastoStart™	Ignition Lead
*FS 36, 40	4130 124 0800	4112 400 7000	0000 350 3502	3.5 mm	33.5 in	N/A	N/A
*FS 44, 44 R	4130 124 0800	4112 400 7000	0000 350 3502	3.5 mm	33.5 in	N/A	N/A
*FS 45, 45 C-E, 46, 46 C-E FS 38	4140 124 2800	0000 700 7000	0000 350 3506	3 mm non-adj carb 3 mm fully adj carb 2.7 mm Easy2Start™	31.5 in 42 in 36 in	N/A 0000 190 3404 N/A	N/A
*FS 55, 55 R, 55 RC-E *KM 55 R, 55 RC-E	4140 124 2800	0000 400 7000	0000 350 3506	3 mm non-adj carb 3 mm fully adj carb 2.7 mm Easy2Start™	31.5 in 42 in 36 in	N/A 0000 190 3404 N/A	N/A
FS 40 C-E, 50 C-E 56 RC-E, 56 C-E KM 56 C-E	4144 124 2800	0000 400 7011	0000 350 3513	2.7 mm	40 in	N/A	N/A
FS 70, FC 70, 70 C-E	4144 124 2800	0000 400 7011	0000 350 3502	3 mm	33.5 in	N/A	N/A
*FS 75	*4137 124 1500 *Pre-Filter **4137 124 2800 **Main Filter	0000 400 7000	0000 350 3502	2.7 mm	36 in	0000 190 3403	N/A
*FS 80, 80 R, *FS 85, 85 R, 85 RT *KM 85	*4137 124 1500 *Pre-Filter **4137 124 2800 **Main Filter	0000 400 7000	0000 350 3502	2.7 mm	36 in	0000 190 3403	N/A
*FS 83, 83 R	*4141 141 0600 (NLA) *Pre-Filter **4141 124 0800 (NLA) **Main Filter	0000 400 7007	4141 350 3500 (NLA)	3 mm	31.5 in	N/A	N/A
FS 94	4149 120 1800	0000 400 7011	0000 350 3503	2.7 mm	35.8 in	N/A	N/A
KM 94 R	4149 141 0300	0000 400 7011	0000 350 3503	2.7 mm	36 in	N/A	N/A
*FS 120, 120 R, 200, 200 R FS 250, 250 R	4134 141 0300	0000 400 7000	0000 350 3506	3 mm	33.5 in	N/A	N/A
KM 130 R	4134 141 0300	0000 400 7011	0000 350 3502	3 mm	33.5 in	N/A	N/A
FS 130, 130 R KM 130 R	4180 120 1800	0000 400 7011	0000 350 3502	3 mm	33.5 in	N/A	N/A
FS 240, 240 R	4147 141 0300	0000 400 7011	0000 350 3502	3 mm	40 in	N/A	N/A
FS 310	4134 141 0300	0000 400 7011	0000 350 3502	3 mm	33.5 in	N/A	N/A
*FS 350	4134 141 0300	0000 400 7000	0000 350 3506	3 mm	33.5 in 31.5 in	0000 190 3405 N/A	N/A
FS 360 C-E	4147 141 0300	0000 400 7011	0000 350 3502	3 mm	39.5 in	N/A	N/A
*FS 450	4134 141 0300	0000 400 7000	0000 350 3506	3 mm	33.5 in 31.5 in	0000 190 3405 N/A	N/A
FS 460 C-EM	4147 141 0300	0000 400 7011	0000 350 3502	3 mm	39.5 in	1128 190 3400	N/A
*FS 550	4116 120 1602 4116 141 0300	0000 400 7000	0000 350 3502	3.5 mm	38 in	0000 190 3401	16.2 in
FS 560	4148 141 0300	0000 400 7000	0000 350 3502	3 mm	40 in	N/A	N/A

*Discontinued Models

STIHL® Tune Up Component Charts

STIHL Hedge Trimmer Tune Up Component Chart

STIHL Model	Air Filter	Pre Filter	Spark Plug	Fuel Filter	Rope Diameter	Rope Length	ElastoStart™	Ignition Lead
HL 45	4140 124 2800	N/A	0000 400 7000	0000 350 3506	3 mm	42 in	N/A	N/A
HL 90	4180 120 1800	0000 400 7009	0000 400 7000	0000 350 3502	3 mm	33.5 in	N/A	4180 120 1800
HL 100	4180 120 1800	0000 400 7009	0000 400 7000	0000 350 3502	3 mm	33.5 in	N/A	4180 120 1800
HS 45	4140 124 2800	4228 124 1500	0000 400 7000	0000 350 3503	3 mm	42 in	0000 190 3404	N/A
HS 46, 56	4242 120 1800	N/A	0000 400 7011	0000 350 3502	2.7 mm	40 in 36 in Easy2Start™	N/A	N/A
***HS 75, 80, 81, 86**	4137 124 2800	4137 124 1500	0000 400 7000	0000 350 3503	2.7 mm	36 in	N/A	N/A
HS 82, 87	4237 141 0300	N/A	0000 400 7011	0000 350 3503	2.7 mm	40 in	N/A	N/A

STIHL Cutquik® Tune Up Component Chart

STIHL Model	Air Filter	Spark Plug	Fuel Filter	Drive Belt	Rope Diameter	Rope Length	ElastoStart™	Ignition Lead
GS 461	0000 140 4402	0000 400 7000	0000 350 3504	N/A	3.5 mm	40 in	4252 190 3400	4 in
***TS 350**	4201 141 0310 4201 141 0310 4201 140 1801	0000 400 7000	0000 350 3500	9490 000 7850	4.5 mm	39.5 in	0000 190 3414	12.8 in
***TS 400**	4223 007 4402	0000 400 7000	0000 350 3500	9490 000 7851	3.5 mm 4.5 mm	X38430 817 1999 to Current	1128 190 3400	14.8 in
TS 410, 420	4238 140 4404	0000 400 7000	0000 350 3506	9490 000 7920 (12") 9490 000 7915 (14")	4.5 mm	39.5 in	0000 190 3414	10.8 in
***TS 460**	4221 007 1002	0000 400 7000	0000 350 3500	9490 000 7850	4.5 mm	39.5 in	0000 190 3414	14.2 in
TS 480i, 500i	4238 140 4404	0000 400 7000	4250 350 3500	9490 000 7901 (12") 9490 000 7900 (14")	4.5 mm	38 in	0000 190 3417	5.9 in
***TS 510, 760**	4221 007 1002	0000 400 7000	0000 350 3500	9490 000 7892 (12") 9490 000 7895 (14")	4.5 mm	39.5 in	0000 190 3414	12.6 in
TS 700	4224 007 1013	0000 400 7000	0000 350 3504	9490 000 7920	4.5 mm	39.5 in	0000 190 3414	13.2 in
TS 800	4224 007 1013	0000 400 7000	0000 350 3504	9490 000 7915	4.5 mm	39.5 in	0000 190 3414	13.2 in

*Discontinued Models

Bulk Starter Rope, Ignition Lead, and Fuel Line Charts

ElastoStart™ Components (for specific unit models use parts list)

Description	Rope Diameter in Millimeters	Part Number
ElastoStart™ Assembly	3.0	0000 190 3400
ElastoStart™ Assembly	3.5	0000 190 3401
ElastoStart™ Assembly	3.0	0000 190 3403
ElastoStart™ Assembly	2.7	0000 190 3403
ElastoStart™ Assembly	3.0	0000 190 3404
ElastoStart™ Assembly	3.0	0000 190 3405
ElastoStart™ Replacement Rope	4.5	1122 190 2900
ElastoStart™ Assembly	4.5	1122 190 3400
ElastoStart™ Replacement Rope	3.5	1123190 2900
ElastoStart™ Replacement Rope	3.5	1128 190 2900
ElastoStart™ Assembly	3.5	1128 190 3400
ElastoStart™ Replacement Rope Reel (28 per spool)	3.5	0000 930 2267
ElastoStart™ Replacement Rope Reel (28 per spool)	4.5	0000 930 2268

200’ Reels of Starter Rope

Rope Diameter in Millimeters	Part Number
2.7	0000 930 2210
3.0	0000 930 2211
3.5	0000 930 2212
4.5	0000 930 2213

32’ Reel of Ignition Lead Wire

Description	Part Number
32’ of Ignition Lead Wire	0000 930 2251

Fuel Line

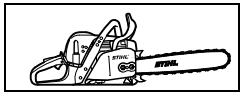
Description	Length in Feet	Length in Meters	Part Number
Black 3.1 mm x 5.7 mm (R3)	3.28	1	0000 930 2803
Black 3.1 mm x 5.7 mm (R3)	32.8	10	0712 923 8004
Grey 3.1 mm x 5.7 mm (R5)	3.28	1	0000 937 5004

Return Line

Description	Length in Feet	Length in Meters	Part Number
Black 2.2 mm x 5.5 mm (R1)	3.28	1	0000 930 2802

Vent Line

Description	Length in Feet	Length in Meters	Part Number
Clear 3.0 mm	9.8	3	0000 930 2207



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STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
MS 170 1130		–	–	–	LD = 2	–	–	30.1 1.84	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	14,000	8 6	28 20.5	50 37	7.3 (+/-2.0) 0.25 (+/-0.07)
MS 171 1139	C1Q-S123B	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	30.1 1.84	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	CMR 6 H	0.5 0.02	2,800	13,500	11 8	28 20.5	50 37	7.0 (+/-2.5) 0.24 (+/-0.08)
MS 180 1130		–	–	–	LD = 2	–	–	31.8 1.94	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F	0.5 0.02	2,800	14,000	8 6	28 20.5	50 37	7.3 (+/-2.0) 0.25 (+/-0.07)
MS 181 1139	C1Q-S121B C1Q-S122B	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	31.8 1.94	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	CMR 6 H	0.5 0.02	2,800	13,500	11 8	28 20.5	50 37	7.0 (+/-2.5) 0.24 (+/-0.08)
MS 192 1137	C1Q-S124	✓	–	1 (16/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	30.1 1.84	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	CMR 6 H	0.5 0.02	3,000	13,500	8 6	25 18.5	25 18.5	7.5 (+/-1.5) 0.26 (+/-0.05)
MS 192 T 1137	C1Q-S103 C1Q-S104	✓	–	1 (16/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	30.1 1.84	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,000	13,500	8 6	25 18.5	25 18.5	7.5 (+/-1.5) 0.26 (+/-0.05)
MS 193 1137	C1Q-S287	✓	✓	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	30.1 1.84	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	CMR 6 H	0.5 0.02	3,000	13,000	8 6	25 18.5	25 18.5	8.4 (+/-1.5) 0.28 (+/-0.05)
MS 193 T 1137	C1Q-S285	✓	✓	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	30.1 1.84	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	CMR 6 H	0.5 0.02	3,000	13,000	8 6	25 18.5	25 18.5	8.4 (+/-1.5) 0.28 (+/-0.05)

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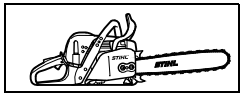

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		H	L					cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
MS 200 1129	C1Q-S96	–		1 (16/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	35.2 2.14	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F	0.5 0.02	2,800	14,000	10 7.5	25 18.5	33 24.5	min 3.5 (+/-1.0) max 9.5 (+/-2.0) min 0.12 (+/-0.03) max 0.32 (+/-0.07)
	C1Q-S96 B C1Q-S127								0.25 (+0.15/-0.10) 0.01 (+0.006/-0.004)	WSR 6 F BPMR 7 A				10 7.5	23 17	33 24.5	
MS 200 T 1129	C1Q-S61 C1Q-S126	–		1 (16/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	35.2 2.14	0.25 (+0.15/-0.10) 0.01 (+0.006/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	14,000	10 7.5	23 17	33 24.5	min 3.5 (+/-1.0) max 9.5 (+/-2.0) min 0.12 (+/-0.03) max 0.32 (+/-0.07)
MS 201 1145	C1Q-S188 C1Q-S189	–		2 (32/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	35.2 2.14	0.25 (+0.15/-0.10) 0.01 (+0.006/-0.004)	CMR 6 H	0.5 0.02	3,000	14,000	10 7.5	23 17	25 18.5	min 3.5 (+/-1.0) max 9.5 (+/-2.0) min 0.12 (+/-0.03) max 0.32 (+/-0.07)
MS 201 T 1145	C1Q-S188 C1Q-S189	–		1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	35.2 2.14	0,25 (+0,15/-0,10) 0.01 (+0.006/-0.004)	CMR 6 H	0.5 0.02	3,000	14,000	10 7.5	23 17	25 18.5	min 3.5 (+/-1.0) max 9.5 (+/-2.0)min min 0.12 (+/-0.03) max 0.32 (+/-0.07)
MS 211 1139	C1Q-S119B C1Q-S120B	–		1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	35.2 2.14	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	CMR 6 H	0.5 0.02	2,800	13,500	11 8	28 20.5	50 37	7.0 (+/-2.5) 0.24 (+/-0.08)
MS 230 1123	C1Q-S76 A C1Q-S92	–		1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	40.2 2.45	0.30 (+0.20/-0.10) 0.012 (+0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	14,000	11.5 8.5	28 20.5	50 37	7.0 (+/-2.5) 0.24 (+/-0.08)

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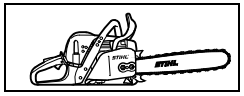

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
MS 250 1123	C1Q-S75 C1Q-S76 C1Q-S92	●	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	45.4 2.76	0.30 (+0.20/-0.10) 0.012 (+0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	14,000	11.5 8.5	28 20.5	50 37	7.0 0.24
	C1Q-S75A																8.0 (+/-2.0) 0.27 (+/-0.07)
	C1Q-S76A C1Q-S92																
	C1Q-S242	●	●	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	3/4 (12/16)										
MS 250 C 1123	C1Q-S75	●	●	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 1/2 (24/16)	45.4 2.76	0.30 (+0.20/-0.10) 0.012 (+0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	14,000	11.5 8.5	28 20.5	50 37	7.0 0.24
MS 260 1121	WT-403	–	–	–	1 (16/16)	–	–	48.7 2.96	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	14,000	10 7.5	30 22	50 37	min 4.5 (+/-2.0) max 11.5 (+/-3.0) min 0.16 (+/-0.07) max 0.4 (+/-0.10)
	WTE-1 WTE-2	●	–	1 (16/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	50.2 3.06	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)					11 8	33 24.5	50 37	
MS 261 1141	C1Q-S178	●	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	50.2 3.06	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	BPMR 7 A	0.5 0.02	2,800	14,000	10 7.5	28 20.5	50 37	min 4.5 (+/-2.0) max 11.5 (+/-3.0) min 0.16 (+/-0.07) max 0.4 (+/-0.10)
MS 270 1133	HD-33A	●	●	1 (16/16)	1 1/4 (20/16)	3/4 (12/16)	1/4 (4/16)	50 3.0	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	13,500	9 6.5	28 20.5	50 37	10.0 0.34

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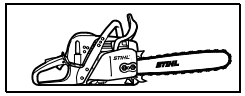

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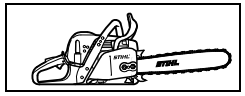
STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
MS 271 1141	C1Q-S178	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	50.2 3.06	0.30 (+0.20/-0.05) 0.012 (+0.008/-0.002)	BPMR 7 A	0.5 0.02	2,800	13,000	11 8	28 20.5	50 37	8.0 (+/-2.0) 0.27 (+/-0.07)
MS 280 1133	HD-32A	✓	✓	1 (16/16)	1 1/4 (20/16)	3/4 (12/16)	1/4 (4/16)	54.7 3.34	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	13,500	9 6.5	28 20.5	50 37	10 0.34
MS 280 I 1133	HD-39	–	✓	–	1 1/4 (20/16)	–	1/4 (4/16)	54.7 3.34	0.30 (+0.05/-0.10) 0.012 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	13,500	9 6.5	28 20.5	50 37	10 0.34
MS 290 1127	HD-18B	✓	✓	1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	56.5 3.43	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	12,500	11 8	28 20.5	50 37	6-15 0.21-0.51
	HD-18C								0.30 (+0.20/-0.15) 0.012 (+0.008/-0.006)				13,500				min 6.0 (+/-2.0) max 17.5 (+3.0/-4.5) min 0.21 (+/-0.07) max 0.60 (+0.10/-0.16)
MS 291 1141	C1Q-S178 C1Q-S179	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	55.5 3.39	0.30 (+0.20/-0.05) 0.012 (+0.008/-0.006)	BPMR 7 A	0.5 0.02	2,800	13,000	11 8	28 20.5	50 37	8,0 (+/-2,0) 0.27 (+/-0.07)
MS 310 1127	HD-21B	✓	✓	1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	59.0 3.60	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	13,000	11 8	28 20.5	50 37	min 6.0 (+/-2.0) max 17.5 (+3.0/-4.5) min 0.21 (+/-0.07) max 0.60 (+0.10/-0.16)
	HD-21C								0.30 (+0.20/-0.05) 0.012 (+0.008/-0.002)								



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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
MS 311 1140	WTE-9	✓	–	1 (16/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	59.0 3.60	0.30 (+0.05/-0.10) 0.012 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	13,000	12 8	33 24.5	50 37	min 6.0 (+/-2.0) max 17.5 (+3.0/-4.5) min 0.21 (+/-0.07) max 0.60 (+0.10/-0.16)
MS 361 1135	HD-34A	✓	✓	1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	59.0 3.60	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	14,000	10 7.5	28 20.5	50 37	min 5.5 (+/-2.5) max 15.0 (+/-3.0) min 0.19 (+/-0.08) max 0.51 (+/-0.10)
	HD-34B								0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)								
MS 362 1140	WTE-8	✓	–	1 (16/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	59.0 3.60	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	BPMR 7 A	0.5 0.02	2,800	14,000	10 7.5	33 24.5	50 37	min 5.5 (+/-2.5) max 15.0 (+/-3.0) min 0.19 (+/-0.08) max 0.51 (+/-0.10)
MS 391 1140	WTE-9	✓	–	1 (16/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	64.1 3.91	0.30 (+0.05/-0.10) 0.012 (+0.002/-0.004)	BPMR 7 A	0.5 0.02	2,800	13,000	12 9	33 24.5	50 37	min 6.0 (+/-2.0) max 17.5 (+3.0/-4.5) min 0.21 (+/-0.07) max 0.60 (+0.10/-0.16)
MS 440 1128	HD-17A	✓	✓	1	1	3/4	1/4	70.7 4.31	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	13,500	11.5 8.5	33 24.5	50 37	min 6.0 (+/-2.0) max 17.0 (+/-3.0) min 0.21 (+/-0.07) max 0.58 (+/-0.10)
	HD-17B								0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)								
MS 441 1138	HD-41 HD-41B	✓	✓	1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	70,7 4.31	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F BPMR 7 A	0,5	2,800	13,500	15 11	33 24.5	50 37	min 6.0 (+2.0/-2.5) max 16.5 (+/- 3.5) min 0.21 (+0.07/-0.08) max 0.56 (+/-0.12)

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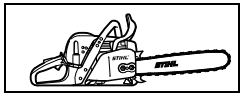

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		H L					cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
MS 460 1128	HD-16		1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	76.5 4.67	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	13,500	15 11	33 24.5	50 37	min 6.0 (+/-2.0) max 17.0 (+/-3.0) min 0.21 (+/-0.07) max 0.58 (+/-0.10)
	HD-16A HD-16B							0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)								
MS 660 1122	WJ-69		1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	91,6 5.59	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	13,000	15 11	45 33	70 51.5	10-21 0.34-0.72
	WJ-69B							0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)				13,500				min 10.0 (+/-4.0) max 20.5 (+/-3.5) min 0.34 (+/-0.14) max 0.69 (+/-0.12)
MS 880 1124	HT-12D		1 (16/16)	1 (16/16)	1/2 (8/16)	1/4 (4/16)	121.6 7.42	0.30 (+0.05/-0.10) 0.012 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,700	11,500	15 11	45 33	80 59	min 14.0 (+/-5.0) max 36.0 (+/-5.0) min 0.48 (+/-0.17) max 1.23 (+/-0.17)
	WG-12		1 1/2 (24/16)	1 (16/16)	1/2 (8/16)	1/4 (4/16)		0.30 (+0.10/-0.10) 0.012 (+0.004/-0.004)				11,000				

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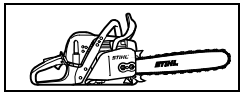

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
009 L 1120		–	–	1 (16/16)	1 (16/16)	–	–	40.8 2.49	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	10,500	9 6.5	25 18.5	28 20.5	8.5 (+/-2.5) 0.29 (+/-0.08)
012 1120	C1S-S1B	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	45.2 2.76	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F	0.5 0.02	2,700	10,500	9 6.5	25 18.5	25 18.5	8.5 (+/-2.5) 0.29 (+/-0.08)
017 1130	WT-325	–	–	–	LD = 1	–	–	30.1 1.84	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,200	–	9.5 7	28 20.5	50 37	7.3 (+/-2.0) 0.25 (+/-0.07)
	C1Q-S43 C1Q-S57	–	–	–	LD = 2	–	–										
018 1130	C1Q-S43 C1Q-S57	–	–	–	LD = 2	–	–	31.8 1.94	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	–	9.5 7	28 20.5	50 37	7.3 (+/-2.0) 0.25 (+/-0.07)
019 T 1132		–	–	–	1 (16/16)	–	–	35.2 2.15	0.20 (+0.05/-0.10) 0.008 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	–	8 6	28 20.5	50 37	5-9 0.17-0.31
	C1Q-S46A	–	–	–	1 (16/16)	–	1 (16/16)		0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)				12,500				7.0 (+/-2.0) 0.24 (+/-0.07)
MS 191 T 1132	C1Q-S59		–	1 (16/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	46.5 2.84	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,000	12,500	8 6	28 20.5	50 37	7.0 (+/-2.0) 0.24 (+/-0.07)
020 1114	WT-15A			–	–	1 1/4 (20/16)	1 1/4 (20/16)	35.2 2.15	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,400	12,000	11.5 8.5	25 18.5	32.5 24	10.0 (+/-2.0) 0.34 (+/-0.07)

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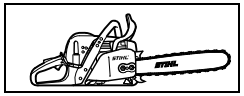

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		H	L					cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
020, 020 T 1129	C1Q-S32	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	35.2 2.15	0.25 (+0.15/-0.10) 0.01 (+0.006/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	14,000	11.5 8.5	25 18.5	33 24.5	min 3.5 (+/-1.0) max 9.5 (+/-2.0) min 0.12 (+/-0.03) max 0.32 (+/-0.07)
021 1123		–	–	–	1 (16/16)	–	–	35.2 2.14	0.30 (+0.20/-0.10) 0.012 (+0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	11,500	11.5 8.5	28 20.5	50 37	7.0 (+/-2.5) 0.24 (+/-0.08)
MS 210 1123	C1Q-S77A C1Q-S90A	–		1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	35.2 2.14	0.30 (+0.20/-0.10) 0.012 (+0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	12,500	11.5 8.5	28 20.5	50 37	7.0 (+/-2.5) 0.24 (+/-0.08)
023 1123	WT-215	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	40.2 2.45	0.30 (+0.20/-0.10) 0.012 (+0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	12,500	11.5 8.5	28 20.5	50 37	7.0 (+/-2.5) 0.24 (+/-0.08)
024 1121	WT-194	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	44.3 2.70	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	13,000	10 7.5	30 22	50 37	9.5 (+/-2.5) 0.32 (+/-0.08)
025 1123		–	–	1 (16/16)	1 (16/16)	–	–	45.4 2.76	0.30 (+0.20/-0.10) 0.012 (+0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	13,000	11.5 8.5	28 20.5	50 37	7.0 (+/-2.5) 0.24 (+/-0.08)
	WT-215	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)										
026 1121		–	–	1 (16/16)	1 (16/16)	–	–	48.7 2.96	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	14,000	10 7.5	33 24.5	50 37	4.5-11.5 0.16-0.4
028 1118	WT-16B	–	–	–	–	1 (16/16)	1 (16/16)	51.5 3.14	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,600	12,500	7 5	30 22	50 37	10.0 (+/-2.0) 0.34 (+/-0.07)

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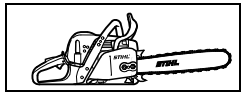

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
029 S 1127	HD-18B			1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	56.5 3.43	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	12,500	11 8	28 20.5	50 37	6-15 0.21-0.51
036 1125		–	–	1 (16/16)	1 (16/16)	–	–	61.5 3.75	0.25 (+0.05/-0.05) 0.008 (+0.002/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	13,500	11.5 8.5	32.5 24	50 37	5-14.5 0.17-0.50
	C3A-S39			1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)										
MS 360 1125	C3A-S39			1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	61.5 3.75	0.25 (+0.05/-0.05) 0.008 (+0.002/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	13,500	11 8	33 24,5	50 37	5-14.5 0.17-0.50
038 1119	48A-101A	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	66.8 4.07	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	12,500	10.5 8	33 24.5	50 37	min 9.0 (+/-2.0) max 19.0 (+/-3.0) min 0.31 (+/-0.07) max 0.64 (+/-0.10)
039 1127	HD-21B			1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	64.1 3.91	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0,5	2,800	13,000	11 8	27.5 20	50 37	6-17.5 0.21-0.60
MS 390 1127	HD-21B			1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	64.1 3.91	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0,5	2,800	13,000	11 8	28 20.5	50 37	min 6.0 (+/-2.0) max 17.5 (+3.0/-4.5) min 0.21 (+/-0.07) max 0.60 (+0.10/-0.16)
	HD-21C								0.30 (+0.20/-0.15) 0.012 (+0.008/-0.006)								

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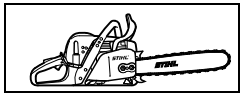

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	cc/min oz/min @ 10,000 r.p.m
044 1128	HD-17A			1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	70.7 4.31	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	13,500	11.5 8.5	32.5 24	50 37	6-17 0.21-0.58
	HD-15B	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)		0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)								min 6.0 (+/-2.0) max 17.0 (+/-3.0) min 0.21 (+/-0.07) max 0.58 (+/-0.10)
046 1128	HD-8A HD-14A	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)		0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	13,500	15 11	32.5 24	50 37	min 6.0 (+/-2.0) max 17.0 (+/-3.0) min 0.21 (+/-0.07) max 0.58 (+/-0.10)
	HD-16			1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	76.5 4.67						15 11	33 24.5	50 37	
056 1115	HS-118B			–	–	1 1/4 (20/16)	1/4 (4/16)	93.6 5.71	0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)	WSR 6 F	0.5 0.02	2,200	12,000	10 7.5	30 22	45 33	21.0 (+/-4.0) 0.72 (+/-0.14)
MS 650 1122	WJ-69			1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	84.9 5.18	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	13,500	15 11	45 33	70 51.5	10-21 0.34-0.72
	WJ-69B WJ-69A								0.20 (+0.10/-0.05) 0.008 (+0.004/-0.002)								min 10.0 (+/-4.0) max 20.5 (+/-3.5) min 0.34 (+/-0.14) max 0.69 (+/-0.12)
066 1122	WJ-69			1 (16/16)	1 (16/16)	3/4 (12/16)	1/4 (4/16)	91,6 5.59	0.25 (+0.05/-0.05) 0.008 (+0.002/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	13,000	15 11	33 24.5	70 51.5	10-21 0.34-0.72
084 1124	HT-7A	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	121.6 7.42	0.25 (+0.05/-0.05) 0.01 (+0.002/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,000	12,500	15 11	45 33	70 51.5	min 17.0 (+/-7.0) max 25.0 (+/-4.0) min 0.58 (+/-0.24) max 0.85 (+/-0.14)

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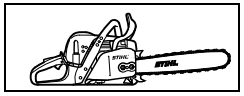

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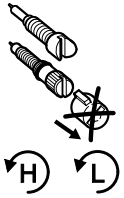
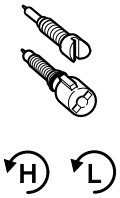
		 H L	 H L		 H L		 cc cu.in.	 mm in.	 BOSCH NGK	 mm in.	 1/min @ r.p.m.	 1/min @ r.p.m.	 Nm lbf.ft.	 Nm lbf.ft.	 Nm lbf.ft.	 cc/min oz/min @ 10,000 r.p.m
088 1124	HT-12D		1 (16/16)	1 (16/16)	1/2 (8/16)	1/4 (4/16)	121.6 7.42	0.30 (+0.05/-0.10) 0.012 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,700	12,000	15 11	45 33	80 59	min 14.0 (+/-5.0) max 36.0 (+/-5.0) min 0.48 (+/-0.17) max 1.23 (+/-0.17)
090 1106	LB-S9	– –	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	136.8 8.35	0.25 (+0.05/-0.05) 0.01 (+0.002/-0.002)	WSR 6 F	0.5 0.02	2,000	7,500	10 7.5	45 33	40 29.5	30.0 (+/-5.0) 1.01 (+/-0.17)

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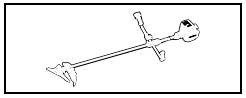

2015 - 01 USA

STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
FS 36, 40, 44 **FC 44** 4130	WT-160B	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	30.2 1.84	0.30 (+0.20/-0.20) 0.012 (+0.008/-0.008)	BMR 6 A	0.7-0.8 0.028- 0.032	3,100	9,300	13 9.5		17 12.5				
	WT-327 WT-492A			4 (64/16)	1 1/2 (24/16)	1/4 (4/16)	1/4 (4/16)		0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)				8,600- 10,000							
FS 38, 45, 46, 55 **FC 55** 4140	C1Q-S66 C1Q-S97		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	8,700- 10,300	9 6.5		17 12.5	17 12.5			
	C1Q-S97A												9,500							
	C1Q-S153												8,600- 10,400							
	C1Q-S71		–	1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)						8,700- 10,300							
	C1Q-S186B			2 (32/16)	1 1/2 (24/16)	3/4 (12/16)	3/4 (12/16)													
	C1Q-S291A																			
	C1Q-S216			1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	3/4 (12/16)													
	C1Q-S282			1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	3/4 (12/16)													
FS 40, 50, 56, 70 4144 **FC 56, 70** 4144	C1M-S145B C1M-S146B			1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	3/4 (12/16)	27.2 1.66	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	CMR 6 H	0.5 0.02	2,800	9,000- 10,600	9 6.5		20 14.5		17 12.5		

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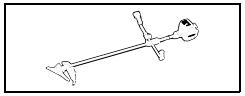

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STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
FS 75, 80, 85 **FC 75, 85** 4137 **KW 85** 4602	WT-447	–	–	1 (16/16)	1 (16/16)	–	–	25.4 1.55	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	9,700- 11,300	9 6.5		26 19		14 10.5		
	C1Q-S28 C1Q-S41	–	–		1 (16/16)	–	–													
	C1Q-S45 C1Q-S56	–	–		LD = 2	–	–													
	C1Q-S63 C1Q-S69		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)													
	C1Q-S69A												10,500							
	C1Q-S78		–	1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)						9,700- 11,300							
	C1Q-S80		–	2 (32/16)	1 (16/16)	3/4 (12/16)	1 (16/16)													
FS 73, 83 **FC 73, 83** 4141		–	–	–	–	–	–	25.4 1.55	0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)	CMR 7 A	0.5 0.02	3,000	10,000- 11,000	10 7.5		21 15.5		20 14.5		
FS 90 **FC 90, 95** 4180	C1Q-S110			3 1/2 (56/16)	1 1/4 (20/16)	3/4 (12/16)	3/4 (12/16)	28.4 1.73	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	USR 7 AC	0.5 0.02	2,800	10,300- 10,700	9 6.5	17 12.5		17 12.5		12 9	0.1 0.004
	C1Q-S131B												9,800- 11,000							

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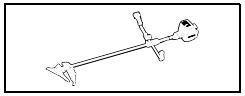

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STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
FS 110 **FC 100, 110** 4180	C1Q-S72 C1Q-S81 C1Q-S88	●	●	2 (32/16)	3 (48/16)	3/4 (12/16)	3/4 (12/16)	31.4 1.92	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	USR 7 AC	0.5 0.02	2,800	10,300- 10,700	9 6.5	17 12.5		17 12.5		12 9	0.1 0.004
	C1Q-S110	●	●	3 1/2 (56/16)	1 1/4 (20/16)	3/4 (12/16)	3/4 (12/16)													
	C1Q-S131B												9,800- 11,000							
FS 120 4134	C1Q-S35	–	–	1 (16/16)	1 (16/16)	–	–	30.8 1.88	0.20 (+0.10/-0.05) 0.00812 (+0.004/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	11,300- 13,300	10 7.5	32 23.5	24 17.5			12 9	
	C1Q-S36 C1Q-S51	–	–	–	LD = 2	–	–													
	C1Q-S82	●	–	1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	36.3 2.21	0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)											
FS 130 4180	C1Q-S98	●	●	4 (64/16)	2 1/2 (40/16)	3/4 (12/16)	3/4 (12/16)	36.3 2.22	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	CMR 6 H	0.5 0.02	2,800	10,300- 10,700	9 6.5	17 12.5		17 12.5		12 9	0.1 0.004
	C1Q-S131B	●	●	4 1/2 (72/16)	2 1/2 (40/16)	3/4 (12/16)	3/4 (12/16)						9,800- 11,000							
FS 200 4134	C1Q-S35	–	–	1 (16/16)	1 (16/16)	–	–	36.3 2.22	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	11,300- 13,300	10 7.5	32 23.5	24 18			12 9	
	C1Q-S36 C1Q-S51	–	–	–	LD = 2	–	–													
	C1Q-S83	●	–	1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)													
	C1Q-S162	●	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)						11,100- 12,800	10 7.5	28 20.5	24 18			12 9	

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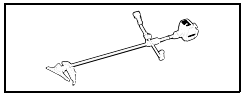

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STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
FS 240 4147	WTF-5A WTF-11 WTF-10			1 1/2 (24/16)	1 1/4 (20/16)	–	–	37.7 2.3	0.30 (+0.10/-0.05) 0.012 (+0.002/-0.004)	CMR 6 H	0.5 0.02	2,800	10,500- 12,500	9 6.5	28 20.5		17 12.5			
FS 250 4134	C1Q-S51	–	–	–	LD = 2	–	–	40.2 2.45	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	11,300- 13,300	10 7.5	32 23.5	24 18			12 9	
	C1Q-S83		–	1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)													
	C1Q-S162		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)						11,100- 12,800	10 7.5	28 20.5	24 18			12 9	
FS 310 4180	C1Q-S133A							36.3 2.22		CMR 6 H		2,800	9,800- 11,000	9 6.5	17 12.5		17 12.5		12 9	0.1 0.004
	C1Q-S176			4 (64/16)	2 (32/16)	–	–													
FS 350 4134	C1Q-S35	–	–	1 (16/16)	1 (16/16)	–	–	36.3 2.22	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	11,300- 13,300	10 7.5	32 23.5	24 18			12 9	
	C1Q-S36 C1Q-S51	–	–	–	LD = 2	–	–													
	C1Q-S83		–	1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)													
	C1Q-S83		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	40.2 2.45												
	C1Q-S162		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)						11,100- 12,800	10 7.5	28 20.5	24 18			12 9	
FS 360 4147	WTF-5	–	–	1 1/2 (24/16)	1 1/4 (20/16)	–	–	37.7 2.3	0.30 (+0.05/-0.10) 0.012 (+0.002/-0.004)	CMR 6 H	0.5 0.02	2,800	9,900 - 13,100	9 6.5	28 20.5		17 12.5			

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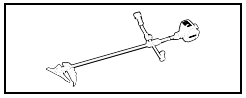

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STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
FS 360, 420 4116	HD-3A	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	51.7 3.15 56.5 3.45	0.20 (+0.10/-0.05) 0.00812 (+0.004/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	12,700	9.5 7	30 22		24 18	14 10.5	20 14.5	
FS 450, 480 4128	C1Q-S94		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	44.3 2.70	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	11,700- 13,300	10 7.5	32 23.5	24 17.5			12 9	
	C1Q-S154		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)						11,400- 12,800	10 7.5	28 20.5	24 18			12 9	
	C1Q-S156			1 1/2 (24/16)	1 (16/16)	1 (16/16)	3/4 (12/16)													
FS 460 C-EM 4147	WTF-7	–	–	–	–	–	–	45.6 2.80	0.30 (+0.05/-0.10) 0.012 (+0.002/-0.004)	CMR 6 H	0.5 0.02	2,700	11,700 - 12,900	9 6.5	28 20.5		17 12.5			
FS 550 4116	HD-22 HD-31A			1 1/4 (20/16)	1 1/4 (20/16)	1/4 (4/16)	1/4 (4/16)	56.5 3.45	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,500	11,600- 12,800	12 9	30 22		24 17.5	14 10.5	20 14.5	
FS 560 C-EM 4148	HDA-302	–	–	–	–	–	–	57.1 3.48	0.30 (+0.05/-0.10) 0.012 (+0.002/-0.004)	BPMR 7 A	0.5 0.02	2,500	11,700 - 12,900	9 6.5	28 20.5		17 12.5			

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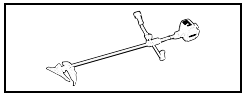

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STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
FS 25-4 4170	WYL-131	–	–	–	–	–	–	22.2 1.35	0.40 (+0.10/-0.05) 0.016 (+0.004/-0.002)	CR5 HSB	0.65 0.025	3,100	11,500			15 11			8 6	
FS 56 4125	WT-45A	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	19.6 1.20	0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800								
FS 65-4 4170	WYL-135	–	–	–	–	–	–	31.0 1.89	0.40 (+0.10/-0.05) 0.016 (+0.004/-0.002)	CR5 HSB	0.65 0.025	3,100	11,500			15 11			8 6	
FS 66 4123	WT-45A	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	19.6 1.20	0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,700								
FS 72, 74, 76 4133	WT-227F	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	23.9 1.46	0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	10,500	9.5 7		20 14.5				
FS 81 4124	WT-45A	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	22.5 1.37	0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,700			8 6	17 12.5		17 12.5		
FS 86 4126	WT-45A	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	25.4 1.55	0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800				15 11	14 10.5	7 5		

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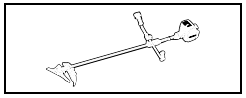

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STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
FS 106 4129, 4132	C1Q-SK5	–	–	1 (16/16)	1 (16/16)	1 (16/16)	1 (16/16)	34.4 2.10	0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800			15 11	17 12.5			17 12.5	

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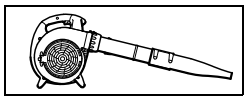

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
BG 56, SH 56 4241	C1M-S142A C1M-S142C C1M-S142D	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	CMR 6 H	0.5 0.02	2,500	9 6.5	17 12.5	21 15.5		
BG 66 4241	C1M-S144 C1M-S144A C1M-S144B	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	CMR 6 H	0.5 0.02	2,500	9 6.5	17 12.5	21 15.5		
BG 86, SH 86 4241	C1M-S141A C1M-S141C C1M-S141D	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	CMR 6 H	0.5 0.02	2,500	9 6.5	17 12.5	21 15.5		
BR 200 4241	C1M-X1978	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	CMR 6 H	0.5 0.02	2,500	9 6.5	17 12.5	21 15.5		
BR 350 4244	C1Q-S199	✓	–	1 1/2 (24/16)	1 1/2 (24/16)	3/4 (12/16)	1 1/2 (24/16)	63.3 3.86	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	BPMR 7 A	0.5 0.02	3,000	12 8.9	20 18.5	35 25.8		
BR 420, SR 420 4203	HD-28A HD-45	✓	✓	1 (16/16)	2 1/4 (36/16)	1/4 (4/16)	1/4 (4/16	56.5 3.44	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,100	10 7.5	25 18.5		25 18.5	
BR 430 4244	C1Q-S165	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	63.3 3.86	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	BPMR 7 A	0.5 0.02	3,000	12 8.9	20 18.5	35 25.8		

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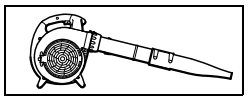

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STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
SR 430, 450 4244	C1Q-S165		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	63.3 3.86	0.25 (0.10/-0.10) 0.01 (0.004/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,000	12 8.9	20 18.5	25 18.5		
BR 500 4282	C1Q-S99			3 1/2 (56/16)	2 (32/16)	3/4 (12/16)	3/4 (12/16)	64.8 3.95	0.25 (0.10/-0.10) 0.01 (0.004/-0.004)	CMR 6 H	0.7 0.028	2,500	12 8.9	20 15	30 22		0.1 0.004
	C1Q-S99A			3 1/2 (56/16)	2 (32/16)	3/4 (12/16)	3/4 (12/16)				0.5 0.02						
	C1Q-S183	–	–	3 1/2 (56/16)	2 (32/16)	–	–										
BR 550 4282	C1Q-S101			3 1/2 (56/16)	2 (32/16)	3/4 (12/16)	3/4 (12/16)	64.8 3.95	0.25 (0.10/-0.10) 0.01 (0.004/-0.004)	CMR 6 H	0.7 0.028	2,500	12 8.9	20 15	30 22		0.1 0.004
	C1Q-S101A			3 1/2 (56/16)	2 (32/16)	3/4 (12/16)	3/4 (12/16)				0.5 0.02						
	C1Q-S185	–	–	3 1/2 (56/16)	2 (32/16)	–	–										
BR 600 4282	C1Q-S100			3 1/2 (56/16)	2 (32/16)	3/4 (12/16)	3/4 (12/16)	64.8 3.95	0.25 (0.10/-0.10) 0.01 (0.004/-0.004)	CMR 6 H	0.7 0.028	2,500	12 8.9	20 15	30 22		0.1 0.004
	C1Q-S100A			3 1/2 (56/16)	2 (32/16)	3/4 (12/16)	3/4 (12/16)				0.5 0.02						
	C1Q-S184	–	–	3 1/2 (56/16)	2 (32/16)	–	–										

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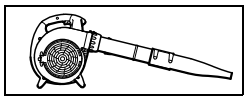

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
BG 45, BG 46, BR 45, BR 46 4229	C1Q-S73 C1Q-S112	●	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.30 (0.15/-0.15) 0.012 (0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	9 6.5	17 12.5	21 15.5		
BG 55, SH 55 BG 65 4229	C1Q-S55	–	–	–	–	–	–	27.2 1.66	0.30 (0.15/-0.15) 0.012 (0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	9 6.5	17 12.5	21 15.5		
	C1Q-S64 C1Q-S68 C1Q-S68E	●	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)										
BG 85, SH 85 4229	–	–	–	–	–	–	–	27.2 1.66	0.30 (0.15/-0.15) 0.012 (0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	9 6.5	17 12.5	21 15.5		
	C1Q-S64 C1Q-S68	●	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)										
BR 200 4241	C1M-X1978	●	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	CMR 6 H	0.5 0.02	2,500	9 6.5	17 12.5	21 15.5		
BR 320, SR 320 4203	HD-7	●	●	2 (32/16)	2 1/2 (40/16)	1/4 (4/16)	1/4 (4/16	44.9 2.73	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,100	8 6	25 18.5		25 18.5	
	HD-13B	●	●	2 1/2 (40/16)	2 (32/16)	1/4 (4/16)	1/4 (4/16										
BR 320 L 4203	WT-331 WT-489	●	●	4 (64/16)	1 1/2 (24/16)	1/4 (4/16)	1/4 (4/16	44.9 2.73	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,100	8 6	25 18.5		25 18.5	
BR 340, SR 340 4203	HD28A	●	●	1 (16/16)	2 1/4 (36/16)	1/4 (4/16)	1/4 (4/16	44.9 2.73	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,100	10 7.5	25 18.5		25 18.5	

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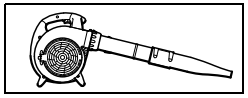

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
BR 340 L 4203	WT-580			1 1/8 (18/16)	2 (32/16)	1/4 (4/16)	1/4 (4/16	44.9 2.73	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,100	10 7.5	25 18.5		25 18.5	
BR 380 4203	HD-45			1 (16/16)	2 1/4 (36/16)	1/4 (4/16)	1/4 (4/16	56.5 3.45	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,100	10 7.5	25 18.5		25 18.5	
BR 400, SR 400 4203	HD-7			2 (32/16)	2 1/2 (40/16)	1/4 (4/16)	1/4 (4/16	56.5 3.44	0.25 (0.05/-0.10) 0.01 (0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	3,100	8 6	25 18.5		25 18.5	
	HD-13B			2 1/2 (40/16)	2 (32/16)	1/4 (4/16)	1/4 (4/16										

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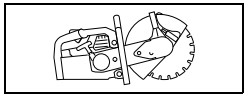

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.
TS 410 4238	C1Q-S118B	–		1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	66.7 4.07	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	WSR 6 F	0.5 0.02	2,500	10,100	9,700- 10,400	9 6.5	33 24.5	40 29.5		
	C1Q-S118A	–		2 1/2 (40/16)	1 (16/16)	3/4 (12/16)	1 (16/16)												
TS 420 4238	C1Q-S118B	–		1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	66.7 4.07	0.25 (+0.10/-0.10) 0.01 (+0.004/-0.004)	WSR 6 F	0.5 0.02	2,500	10,100	9,700- 10,400	9 6.5	33 24.5	40 29.5		
	C1Q-S118A	–		2 1/2 (40/16)	1 (16/16)	3/4 (12/16)	1 (16/16)												
TS 700 4224	HS-314A WJ-114A	–		1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	98.5 6.1	0.30 (+0.10/-0.10) 0.012 (+0.004/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,200		9,400- 10,100	12 8.8	40 29.5	50 37		
TS 800 4224	HS-314A WJ-114A	–		1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	98.5 6.1	0.30 (+0.10/-0.10) 0.012 (+0.004/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,200		9,400- 10,100	12 8.8	40 29.5	50 37		

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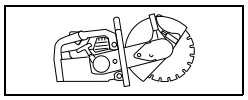

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.
TS 350 4201	HL-366 HL-371A			1 1/4 (20/16)	1 5/8 (26/16)	1/4 (4/16)	1/4 (4/16)	60.3 3.67	0.25 (+0.05/-0.05) 0.01 (+0.002/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	2,500		9,500	10.5 8	27.5 20.5		30 22	
TS 400 4223	HS-279D WJ-108A	–	–	–	1 (16/16)	–	–	64.1 3.91	0.30 (+0.10/-0.10) 0.012 (+0.004/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,500		9,700	10 7.5	30 22	40 29.5		
	HS-274E	–	–	1 (16/16)	1 (16/16)	–	–												
TS 460 4221	HS-275B	–	–	–	1 (16/16)	–	–	72.4 4.41	0.30 (+0.20/-0.10) 0.012 (+0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,500		9,700	10 7.5	25 18.5	40 29.5	40 29.5	
	HS-276D	–	–	1 (16/16)	1 (16/16)	–	–												
TS 510 4205	HS-280D			1 (16/16)	1 (16/16)	1/2 (8/16)	1/4 (4/16)	89.2 5.43	0.20 (+0.00/-0.05) 0.00812 (+0.000/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	1,800		9,000	7.5 5.5	33 24.5	78 58	40 29.5	
TS 760 4205	HS-281D			1 (16/16)	1 (16/16)	1/2 (8/16)	1/4 (4/16)	111 6.76	0.25 (+0.05/-0.05) 0.01 (+0.002/-0.002)	WSR 6 F BPMR 7 A	0.5 0.02	1,800		9,000 8,200[1)]	9.5 7	33 24.5	78 58	50 37	

1) @ 400 mm/16 in

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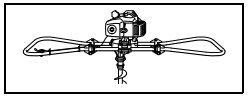

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STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.
BT 45 4314	C1Q-S74	–		1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.67	0.30 (+0.15/-0.15) 0.012 (+0.0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800		9,500	9 6.5	17 12.5	17 12.5		
BT 121 4313	C1Q-S82	–		1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	30.8 1.88	0.30 (+0.20/-0.10) 0.012 (+0.0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800		12,300	10.0 7.5	32 24		24 17.5	12 9

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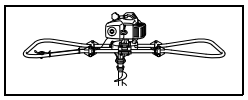

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STIHL®

		H L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.
BT 120 C 4313	C1Q-S82	–	1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	30.8 1.88	0.30 (+0.20/-0.10) 0.012 (+0.0.008/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800		12,300	10.0 7.5	32 24		24 17.5	12 9

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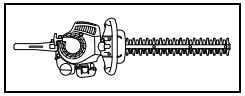

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
HS 45 4228	C1Q-S70 C1Q-S169	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	9,500	9 6.5	17 12.5	17 12.5			
HL 45 4232	C1Q-S44 C1Q-S53 C1Q-S58	–	–	–	LD = 2	–	–	27.2 1.66	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	9,500	9 6.5	17 12.5	17 12.5			
	C1Q-S71 C1Q-S66 C1Q-S97 C1Q-S153	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)												
HS 46, 56 C 4242	C1T-S195C	✓	✓	2 (32/16)	1 (16/16)	3/4 (12/16)	3/4 (12/16)	21.4 1.31	0,25 (+0,15/-0,10) 0.01 (+0.006/-0.004)	CMR 6 H	0.5 0.02	2,900	9,300	8 6	25 18.4	17 12.5			
HS 81, 86 4237	C1Q-S105 C1Q-S115B C1Q-S140	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	22,7 1.39	0.25 (+0.15/-0.10) 0.01 (+0.006/-0.004)	USR 7 AC	0,5 0.02	2,800	9,100	9 6.5	25 18.4				
HL 90 4280	C1Q-S131B	✓	✓	3 1/2 (56/16)	1 1/4 (20/16)	3/4 (12/16)	3/4 (12/16)	28.4 1.73	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	USR 7 AC CMR 6 H	0.5 0.02	2,800	10,500	9 6.5	17 12.5		17 12.5		0.1 0.004
HL 100 4280	C1Q-S72 C1Q-S81 C1Q-S88	✓	✓	2 (32/16)	3 (48/16)	3/4 (12/16)	3/4 (12/16)	31.4 1.92	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	USR 7 AC	0.5 0.02	2,800	10,300- 10,700	9 6.5	17 12.5		17 12.5		0.1 0.004
	C1Q-S110	✓	✓	3 1/2 (56/16)	1 3/16 (19/16)	3/4 (12/16)	3/4 (12/16)												
	C1Q-S131B	✓	✓	3 1/2 (56/16)	1 1/4 (20/16)	3/4 (12/16)	3/4 (12/16)			USR 7 AC		2,800	10,500						

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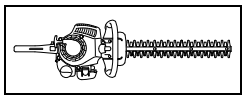

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		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
HS 75, 80, 85 4226	C1Q-S29 C1Q-S42	–	–	–	1 (16/16)	–	–	25.4 1.55	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	10,500	9.5 7		21 15.5			
	WT 412 A	–	–	1 (16/16)	1 (16/16)	–	–												
HL 73 4235		–	–	–	–	–	–	25.4 1.55	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	CMR 7 A	0.6 0.024	2,800	10,500	10 7.5		21 15.5			
HL 75, FH 75 4230	C1Q-S28 C1Q-S41	–	–	–	1 (16/16)	–	–	25.4 1.55	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	10,500	9.5 7		21 15.5			
	C1Q-S45 C1Q-S56	–	–	–	LD = 2	–	–												
	C1Q-S63 C1Q-S69		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)												

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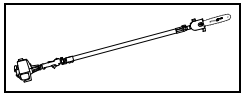

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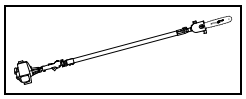
		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
HT 56 4139	C1M-S145B	✓	✓	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	3/4 (12/16)	27.2 1.66	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	CMR 6 H	0.5 0.02	2,800	10,000	9 6.5		20 14.5			
HT 70, 75 4137	C1Q-S28 C1Q-S41	–	–	–	1 (16/16)	–	–	25.4 1.55	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	10,500	9 6.5		26 19		14 10	
	C1Q-S45 C1Q-S56	–	–	–	LD = 2	–	–												
	C1Q-S63 C1Q-S69	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)												
HT 100, 101 4182	C1Q-S72 C1Q-S81 C1Q-S88	✓	✓	2 (32/16)	3 (48/16)	3/4 (12/16)	3/4 (12/16)	31.4 1.92	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	USR 7 AC	0.5 0.02	2,800	10,300- 10,700	9 6.5	17 12.5		17 12.5		0.1 0.004
	C1Q-S110	✓	✓	3 1/2 (56/16)	1 1/4 (20/16)	3/4 (12/16)	3/4 (12/16)												
	C1Q-S131B	✓	✓	3 1/2 (56/16)	1 1/4 (20/16)	3/4 (12/16)	3/4 (12/16)			USR 7 AC USR 5 AC			10,500						
HT 130, 131 4182	C1Q-S98	✓	✓	4 (64/16)	2 1/2 (40/16)	3/4 (12/16)	3/4 (12/16)	36.3 2.22	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	CMR 6 H	0.7 0.03	2,800	10,300- 10,700	9 6.5	17 12.5		17 12.5		0.1 0.004
	C1Q-S130B	✓	✓	4 1/2 (72/16)	2 1/2 (40/16)	3/4 (12/16)	3/4 (12/16)				0.5 0.02		10,500						
HT 250 4134	C1Q-S83	✓	–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	40.2 2.45	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	BPMR 7 A	0.5 0.02	2,800	12,300	10 7.5	28 18.5	24 17.5			

0456 400 3009 A15 FD Printed in Germany

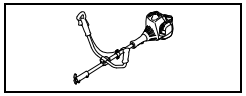


2015 - 01 USA

STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
HT 73 4142		–	–	–	–	–	–	25.4 1.55	0.35 (+0.15/-0.15) 0.014 (+0.006/-0.006)	CMR 7 A	0.5 0.02	3,000	10,000- 11,000	9 6.5	19 14		19 14		

0456 400 3009 A15 FD Printed in Germany

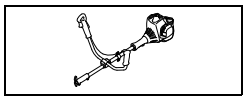


2015 - 01 USA

STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
KM 55 4140	C1M-S145A C1Q-S66 C1Q-S97		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	9,500	9 6.5		17 12.5	17 12.5			
	C1Q-S71		–	1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)													
	C1Q-S143 C1Q-S160			2 1/8 (34/16)	1 3/8 (22/16)	3/4 (12/16)	3/4 (12/16)													
KM 56 4144	C1M-S146B C1M-S145A			1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	3/4 (12/16)	27.2 1.66	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	CMR 6 H	0.5 0.02	2,800	10,000	9 6.5		20 14.5		17 12.5		
KM 85 4137	C1Q-S63 C1Q-S69		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	25.4 1.55	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	10,500	9 6.5		26 19		14 10		
KM 90 4180	C1Q-S110			3 1/2 (56/16)	1 1/4 (20/16)	3/4 (12/16)	3/4 (12/16)	28.4 1.73	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	USR 7 AC	0.5 0.02	2,800	10,500	9 6.5	17 12.5		17 12.5		12 9	0.1 0.004
KM 110 4180	C1Q-S72 C1Q-S81 C1Q-S88			2 (32/16)	3 (48/16)	3/4 (12/16)	3/4 (12/16)	31.4 1.92	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	USR 7 AC	0.5 0.02	2,800	10,500	9 6.5	17 12.5		17 12.5		12 9	0.1 0.004
	C1Q-S110 C1Q-S131B			3 1/2 (56/16)	1 1/4 (20/16)	3/4 (12/16)	3/4 (12/16)													
KM 130 4180	C1Q-S98			4 (64/16)	2 1/2 (40/16)	3/4 (12/16)	3/4 (12/16)	36.3 2.22	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	CMR 6 H	0.7 0.03	2,800	10,500	9 6.5	17 12.5		17 12.5		12 9	0.1 0.004
	C1Q-S176			4 (64/16)	2 (32/16)	-	-													

0456 400 3010 A15 FD Printed in Germany

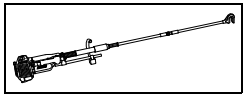


2015 - 01 USA

STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
MM 55 4601	C1Q-S79		–	2 (32/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	27.2 1.66	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	8,900	9 6.5		17 12.5	17 12.5			
	C1Q-S93		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)													

0456 400 3010 A15 FD Printed in Germany



2015 - 01 USA

STIHL®

		H	L	H	L	H	L	cc cu.in.	mm in.	BOSCH NGK	mm in.	1/min @ r.p.m.	1/min @ r.p.m.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	Nm lbf.ft.	mm in.
SP 80 4231	C1Q-S80			2 (32/16)	1 1/2 (24/16)	-	-	25.4 1.55	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	10,500	9 6.5		26 19		14 10.5		
SP 85 4231	C1Q-S69A		–	1 1/2 (24/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	25.4 1.55	0.30 (+0.15/-0.15) 0.012 (+0.006/-0.006)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	10,500	9 6.5		26 19		14 10.5		
SP 200 4233	C1Q-S83		–	1 3/4 (28/16)	1 (16/16)	3/4 (12/16)	1 (16/16)	36.3 2.22	0.25 (+0.05/-0.10) 0.01 (+0.002/-0.004)	WSR 6 F BPMR 7 A	0.5 0.02	2,800	11,300- 13,300	10 7.5	32 24	24 17.5			12 9	

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11 Digit Part Numbers for STIHL® Units & Attachments

Unit	11 Digit Part Number	Unit	11 Digit Part Number
BE 55	4804 011 1500	FS 240	4147 200 0142
BG 50	4229 011 1722	FS 240 R	4147 200 0143
BG 55	4229 011 1701	FS 250	4134 200 0078
BG 56 C-E	4241 011 1707	FS 250 R	4134 200 0180
BG 66 L	4241 011 1708	FSA 65	4852 011 5702
BG 86	4241 011 1710	FSA 85	4852 011 5703
BG 86 C-E	4241 011 1711	FSE 60	4809 011 4100
BGA 85	4853 011 5901	HL 45	4232 200 0002
BGA 100	4866 011 5901	HL 90 K 0	4280 200 0029
BGE 60	4807 011 1500	HL 100 135	4280 200 0018
BGE 61	4811 011 1510	HL 100 K 0	4280 200 0021
BGE 71	4811 011 1520	HL 100 K 135	4280 200 0020
BR 200	4241 011 1600	HLA 65	4859 011 2901
BR 350	4244 011 1601	HLA 85	4859 011 2921
BR 430	4244 011 1621	HOS	5202 200 0003
BR 450	4244 011 1634	HS 45 18	4228 011 2928
BR 450 C-EF	4244 011 1631	HS 45 24	4228 011 2914
BR 500	4282 011 1616	HS 46 C-E	4242 011 2921
BR 550	4282 011 1615	HS 56 C-E	4242 011 2941
BR 600	4282 011 1614	HS 81 R 24	4237 011 2924
BT 45 EAD	4314 200 0004	HS 81 R 30	4237 011 2925
BT 45 WBD	4314 200 0003	HS 81 T 24	4237 011 2903
BT 130	4313 011 2111	HS 81 T 30	4237 011 2904
FC 56 C-E	4144 011 1908	HS 82 R 24	4237 011 2945
FC 70	4144 011 1910	HS 82 R 30	4237 011 2946
FC 70 C-E	4144 011 1903	HS 82 T 24	4237 011 2953
FC 90	4180 011 1909	HS 82 T 30	4237 011 2954
FC 95	4180 011 1910	HS 86 R 30	4237 011 2931
FC 100	4180 011 1903	HS 86 T 30	4237 011 2912
FC 110	4180 011 1911	HS 86 T 40	4237 011 2913
FS 38	4140 012 2327	HS 87 R 30	4237 011 2961
FS 40 C-E	4144 011 2307	HS 87 T 30	4237 011 2972
FS 45	4140 011 2301	HS 87 T 40	4237 011 2973
FS 45 C-E	4140 011 2342	HSA 65	4851 011 3502
FS 46	4140 011 2309	HSA 66	4851 011 3522
FS 46 C-E	4140 011 2344	HSE 70	4812 011 3538
FS 50 C-E	4144 011 2349	HSE 52	4818 011 3508
FS 55	4140 204 0002	HSE 60	4812 011 3537
FS 55 R	4140 200 0263	HT 56 C-E	4139 200 0003
FS 55 RC	4140 200 0138	HT 100	4182 200 0065
FS 56 RC-E	4144 200 0013	HT 101	4182 200 0066
FS 70 R	4144 200 0137	HT 130	4182 200 0067
FS 70 RC-E	4144 200 0055	HT 131	4182 200 0068
FS 90	4180 200 0170	HT 250	4134 200 0294
FS 90 R	4180 200 0169	HTA 65	4857 011 6421
FS 94 R	4149 200 0014	HTA 85	4857 011 6401
FS 110	4180 200 0101	KM 55 R	4140 200 0065
FS 110 R	4180 200 0133	KM 55 RC-E	4140 200 0141
FS 130	4180 200 0106	KM 56 RC-E	4144 200 0017
FS 130 R	4180 200 0327	KM 90 R	4180 200 0171

11 Digit Part Numbers for STIHL® Units & Attachments

Unit	11 Digit Part Number
KM 94 R	4149 200 0043
KM 110 R	4180 200 0125
KM 130 R	4180 200 0435
MM 55	4601 011 3903
MM 55 C-E	4601 011 3905
MS 150 C-E	1146 011 3011
MS 150 T C-E	1146 011 3010
MS 170 14	1130 200 0201
MS 171 14	1139 200 0192
MS 170 16	1130 200 0370
MS 171 16	1139 200 0246
MS 180 16	1130 200 0448
MS 180 C-B 14	1130 200 0188
MS 180 C-B 16	1130 200 0256
MS 180 C-BE 14	1130 200 0186
MS 180 C-BE 16	1130 200 0258
MS 181 16	1139 200 0155
MS 181 C-BE 16	1139 200 0204
MS 192 C-E	1137 011 3021
MS 192 T	1137 011 3001
MS 192 T C-E	1137 011 3007
MS 193 C-E	1137 011 3061
MS 193 T	1137 011 3047
MS 201 C-E	1145 011 3007
MS 201 C-EM	1145 011 3014
MS 201 T	1145 011 3005
MS 201 T C-M	1145 011 3017
MS 210 16	1123 200 0442
MS 210 B 16	1123 266 0000
MS 210 C-BE 16	1123 200 0443
MS 211 16	1139 200 0323
MS 211 18	1139 200 0355
MS 211 C-BE 16	1139 200 0241
MS 211 C-BE 18	1139 200 0356
MS 230 16	1123 200 0269
MS 230 C-BE 16	1123 200 0270
MS 230 C-BED 16	1123 200 0482
MS 241 C-M	1143 011 3095
MS 250 16	1123 200 0285
MS 250 18	1123 200 0722
MS 250 C	1123 011 3081
MS 250 C-BE 18	1123 200 0520
MS 251 18	1143 200 0492
MS 251 C-BE 18	1143 200 0437
MS 261	1141 011 3018
MS 261 C-M	1141 011 3085
MS 261 C-Q	1141 011 3010
MS 261 C-MQ	1141 011 3086
MS 271	1141 011 3041
MS 290	1127 011 3044

Unit	11 Digit Part Number
MS 291	1141 011 3073
MS 291 C-BEQ	1141 011 3054
MS 310	1127 011 3035
MS 311	1140 011 3014
MS 362	1140 011 3003
MS 362 C-M	1140 011 3074
MS 391	1140 011 3035
MSE 140	1208 011 4036
MSE 170 C-BQ	1209 011 4006
MSE 180	1208 011 4026
MSE 210 C-BQ	1209 011 4024
MSE 220	1207 011 4013
MSE 250 C-Q	1210 011 4002
MSA 160 C-BQ	1250 011 5806
MSA 200 C-BQ	1251 011 5806
SE 61	4758 012 4413
SE 62	4784 012 4406
SE 122	4774 012 4407
SH 56 C-E	4241 011 0905
SH 86 C-E	4241 011 0907
SH 55	4229 011 0901
SH 85 D	4229 011 0905
SR 200	4241 011 2623
SR 450	4244 011 2643
TSA 230	4864 011 6601
USG	5203 200 0009
KM/MM Attachment	**11 Digit Part Number**
BF-KM	4601 740 5001
BG-KM	4606 740 5001
FBD-KM	4180 740 5000
FCB-KM	4180 740 5003
FCS-KM	4180 740 5005
FH-KM	4230 740 5003
FSB-KM	4137 740 5007
FS-BLADE-KM	4180 200 0472
FS-LINE-KM	4180 200 0471
HL-KM 0	4230 740 5005
HL-KM 0 135	4230 740 5001
HT-KM	4182 200 0070
KB-KM	4601 740 4901
KW-KM	4601 740 4900
BF-MM	4601 740 4605
BK-MM	4601 740 4606
FCS-MM	4601 740 4603
FS-MM	4601 740 4609
KB-MM	4601 740 4608
KW-MM	4601 740 4604
MF-MM	4601 740 4607
RL-MM	4601 740 4600

Bar Selection for Older Saws

Unit	Guide Bar Length	Pitch/Gauge	Drive Link	Bar Number	
				Rollomatic	Duromatic
012, 015, 015L, 020, (1114) E10, 011, 010	12"	3/8P .050	44	3005 000 4805	
	14"		50	3005 000 4809	
	16"		55	3005 000 4813	
	18"		61	3005 000 4817	
	16"	0.325 .063	62	3005 000 4713	
	18"		68	3005 008 4717	
	14"	1/4P .050	72	3005 000 6409	
	16"		80	3005 000 6413	
08S, 08, S10	17"	3/8 .063	66	3002 000 9115	3002 000 9215
	21"		75	3002 000 9123	3002 000 9223
	25"		88	NLA	NLA
	17"	.404 .063	60	3002 000 9715	3002 000 9215
	21"		68	3002 000 9723	3002 000 9223
	25"		80	3002 000 9731	NLA
040, 042, 048, 046,045, E15	16"	3/8 .050	60	3003 008 8913	3003 000 8813
	18"		66	3003 008 8917	3003 008 8917
	20"		72	3003 008 8921	3003 000 8822
	24"		84		3003 000 8830
	28"		91		3003 000 8838
	32"		105		3003 000 8846
	36"		114		3003 000 8853
	16"	3/8 .063	60	3003 008 6113	3003 001 9413
	18"		66	3003 008 6117	3003 000 9417
	20"		72	3003 008 6121	3003 000 9421
	24"		84		3003 001 9831 *
	28"		91		3003 000 6038
	30"		98		3003 000 6041
	32"		105		3003 000 6046
	38"		114		3003 000 6053
041G	20"	.404 .063	66	3003 000 9721 *	3003 001 9221
	24"		76	3003 000 9731 *	3003 001 5631
050, 051, 075, 076, 070, 090, 090G	17"	.404 .063	60	3002 000 9715	3002 000 9215
	21"		68	3002 000 9723	3002 000 8423
	25"		80	3002 000 9731	NLA
	30"		91	3002 000 9741 *	3002 000 8041
	33"		99	NLA	
	36"		108	3002 000 9753 *	
	42"		123	3002 000 9757	3002 000 8058
	47"		138		3002 000 8064

*Indicates Wide Nose Bar

BES Selector App

Bryan Equipment Sales has developed an app that provides the suggested bar, chain, and sprocket combination for each current saw model and select late model saws for most bar lengths. In addition, the Selector App provides the appropriate cutting attachment, part number for trimmer heads, and required attachments for each current model of STIHL trimmers and brushcutters. The app has been developed for iPhone and Android devices as well for use on your desktop computer. This app is now available for all Bryan Equipment Sales retailers free of charge.

Download the app on the home page of www.bryanequipment.com.

Chain Selection for Older Saws

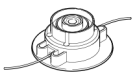
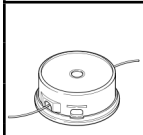
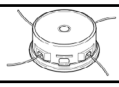
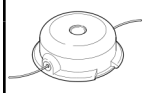
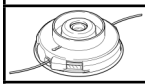
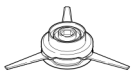
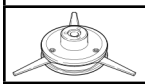
Unit	Pitch/Gauge	Guide Bar Length	Drive Link Count	Chain Loop
012, 015, 015L, 020 (1114) E10, 011, 010	3/8 P .050	12"	44	63PM 44
		14"	50	63PM 50
		16"	55	63PM 55
		18"	61	63PM 61
	.325 .063	16"	62	26RM 62
		18"	68	26RM 68
	1/4 .050	12"	64	13RM 64
		14"	72	13RM 72
		16"	80	13RM 80
08S, 08, S10	3/8 .063	17"	66	36RM 66
		21"	75	36RM 75
		25"	88	36RM 88
	.404 .063	17"	60	46RM 60
		21"	68	46RM 68
		25"	80	46RM 80
07S	.404 .063	17"	60	46RM 60
		21"	68	46RM 68
		25"	80	46RM 80
040, 042, 048, 046, 045, E15	3/8 .050	16"	60	33RM 60
		18"	66	33RM 66
		20"	72	33RM 72
		24"	84	33RM 84
		28"	91	33RM 91
		32"	105	33RM 105
		36"	114	33RM 114
	3/8 .063	16"	60	36RM 60
		18"	66	36RM 66
		20"	72	36RM 72
		24"	84	36RM 84
		28"	91	36RM 91
		30"	98	36RM 98
		32"	105	36RM 105
		36"	114	36RM 114
041, (gear drive)	.404 .063	20"	66	46RM 66
		24"	76	46RM 76
050, 051, 075, 076,070, 090, 090G	.404 .063	17"	60	46RM 60
		21"	68	46RM 68
		25"	80	46RM 80
		30"	91	46RM 91
		30"	92	46RM 92
		33"	99	46RM 99
		36"	108	46RM 108
		36"	104	46RM 104
		41"	123	46RM 123
		47"	138	46RM 138
		50"	139	46RM 139
		59"	173	46RM 173

Sprocket Selection for Older Saws

Unit	Pitch	Teeth	Spur Sprocket	Rim Sprocket
009, 010, 011	3/8P	7	1120 640 2005	
012	3/8P	7	1120 640 2005	
015	3/8P	6	NLA	
	1/4″	8	NLA	
020	3/8P	6	1114 640 2001	
	1/4″	8	1114 640 2000	
017, 018, 019, 021, 023L, MS 191 T	3/8P	6	1123 640 2003	
		7	1123 640 2002	1123 007 1030
023C, 023, 025	3/8P	6	1123 640 2003	
		7	1123 640 2002	1123 007 1030
	.325″	7	1123 640 2074	1123 007 1032
		8	1123 640 2006	1123 007 1031
024, 024S	3/8P	7		1121 007 1004
		8		NLA
	.325″	7	1121 640 2000	1121 007 1001
		8	1121 640 2001	1121 007 1002
026	.325″	7	1121 640 2004 ★	1121 007 1038
		8	1121 640 2005 ★	1121 007 1041
	3/8″	7		1121 007 1041
026 <x25809073	3/8″	7		1121 007 1035
028, 028S	.325″	7	1118 640 1029	NLA
028 (Old) <6552119	.325″	7	Conversion Kit 1118 007 1029	Conversion Kit 1118 007 1003
030, 031, 032	.325″	8	NLA	
	3/8″	7	1113 640 2000	NLA
029, 039, 034, 036	.325″	7	NLA	1125 007 1001
	3/8″	8	1125 640 2008	1125 007 1001
038	3/8″	7	1119 640 2000	1119 007 1003
038, (Old) <8421499	3/8″	7	NLA	NLA
040, 041	3/8″	7	1113 640 2000	NLA
041, (Old) <5664890	.404″	7	NLA	
041G	.404″	7	NLA	
	1/2″	6	NLA	
044, 046	3/8″	7	1128 640 2000	1128 007 1000
		8	NLA	1128 007 1001
042, 048 (Old) <8407350	3/8″	7	NLA	NLA
048	3/8″	7	NLA	NLA
		8		
056	3/8″	7	NLA	
		8		NLA
064, 066	3/8″	7	1122 640 2002	1122 007 1000
		8	1122 640 2000	1122 007 1001
	.404″	7	1122 640 2001	1122 007 1002
051, 075, 076	3/8″	8	NLA	1111 640 2026
	.404″	7	1111 640 2002	1111 640 2025
050, 051 (Old) <8369699	3/8″	8	NLA	
	.404″	7	NLA	
070	.404″	7	1106 640 2011	NLA
090	.404″	7	1106 640 2015	
07S	.404″	7	NLA	
08, 08S, S10	3/8″	8	1108 640 2010	1108 640 2026
	.404″	7	1108 640 2000	1108 640 2025
084, 088	3/8″	8	1124 640 2004	1124 007 1025
	.404″	7	1124 640 2005	1124 007 1024
		8		NLA
E10	3/8″P	6	NLA	
	1/4″	8	NLA	
E14, E140, E180	3/8″P	7	1206 642 1301	
E15	3/8″	8	NLA	
E20, E220	3/8″	8	1207 640 2050	
E30	.404″	7	NLA	
HT 70, HT 75	3/8″P	7	1206 642 1301	

★Adjustable Oil Pumps

Cutting Attachments for Older Trimmers

	Description	Part #	Units																											
			FE 55	FS 36	FS 40	FS 44	FS 50, 51	FS 52, 56	FS 60, 61*	FS 62	FS 65*	FS 66	FS 72	FS 74	FS 76	FS 80*	FS 81	FS 86	FS 90*	FS 96	FS 106	FS 160	FS 180	FS 220	FS 280	FS 353	FS 410	FS 360	FS 420
	STIHL SuperCut™ 20-2	4002 710 2184						●		●		●		●	●		●	●		●	●								
	STIHL SuperCut™ 40-2	4003 710 2142																				●	●	●					
	AutoCut® 5-2	4006 710 2103																											
	AutoCut® C 5-2	4006 701 2016																											
	AutoCut® 11-2	4004 710 2192	●	●	●								●																
	AutoCut® 25-2	4002 710 2191				●						●		●	●		●	●		●	●								
	AutoCut® C 25-2	4002 710 2196																											
	AutoCut® 30-2	4002 710 2187										●		●	●		●	●		●	●								
	AutoCut® 40-2	4003 710 2189																				●	●	●	●				
	AutoCut® 40-2 ①	4005 710 2102																							●				
	TrimCut™ 31-2	4002 710 2156				●	●	●	●	●	●	●		●	●	●		●	●	●									
	TrimCut™ 41-2 ②	4003 710 2108																											
	TrimCut™ 51-2 ③	4005 710 2104																											
	FixCut™ 5-2	4006 710 2118																											
	FixCut™ 25-2	4002 710 2158																											
	STIHL PolyCut™ 5-3	4004 710 2180			●	●							●																
	STIHL PolyCut™ 6-3	4006 710 2104																											
	STIHL PolyCut™ 20-3	4002 710 2189			●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●								
	TrimCut™ 40-2	4003 710 2193																				●	●	●	●	●	●	●	●

*Needs Adapter Part #: 4125 713 6600

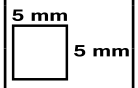
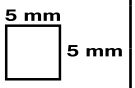
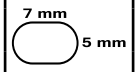
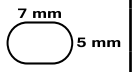
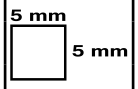
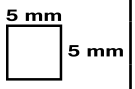
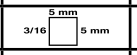
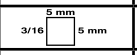
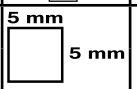
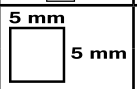
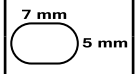
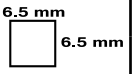
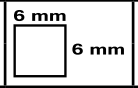
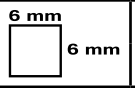
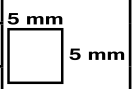
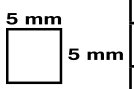
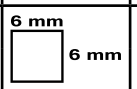
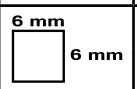
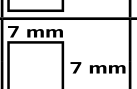
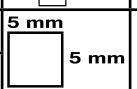
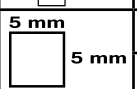
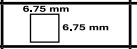
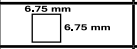
Tubes & Shafts for KombiSystem Units / Attachments

Lower Protective Tubes				Lower Drive Shafts			
Model	Part #	Straight	Curved	Part #	Length	Flex	Solid
FS 55 T FS 83 T FS 85 T	4140 710 7126	X		4140 710 3225	34 3/4"		X
FC 75	4137 710 7128		X	4137 710 3203	34 3/4"	X	
HL/FH (0)	4230 710 7112	X		4230 710 3200	18"		X
HL/FH (0-90)	4230 710 7111	X		4140 710 3225	34 3/4"		X
HT-KM	4138 710 7104	X		4140 710 3225	34 3/4"		X
KM 55 R KM 55 RC-E	4140 710 7128	X		4140 711 3203	22"		X
KM 90 R KM 100 R KM 130 R	4140 710 7120	X		4140 710 3220	27 1/2"		X
BF-KM	4601 710 7106	X		4140 710 3225	34 3/4"		X
BG-KM	4606 711 0201	X		4606 710 5250	7 3/4"		X
FS-LINE-KM FS-BLADE-KM FCS-KM	4140 710 7126	X		4140 710 3225	34 3/4"		X
FSB-KM	4137 710 7143	X		4137 710 3203	34 1/2"	X	
FCB-KM	4137 710 7128		X	4137 710 3203	34 3/4"		X
KB-KM KW-KM (New)	4602 710 7108	X		4601 710 3201	43 1/2"		X
KW-KM (Old)	4602 710 7108	X		4140 710 3225	34 3/4"		X

Protective Tubes & Drive Shafts

Protective Tubes						Drive Shafts						
Model	Part #	Length	Diameter	STR	CUR	Part #	Length	Gearhead Dimension	Clutch Dimension	Diameter	Flex	Solid
FC 44	4130 710 7117	56 1/2"	1"		x	4137 711 3202	60 1/2"	5 mm □ 5 mm	5 mm □ 5 mm	6 mm	x	
FC 55	4140 710 7115	55 3/4"	1"		x	4130 711 3210	56 3/8"	5 mm 3/16 □ 5 mm	5 mm 3/16 □ 5 mm	6 mm	x	
FC 56	4140 710 7115	55 3/4"	1"		x	4130 711 3202	56 1/2"			6 mm	x	
FC 70	4803 710 7115*	59 5/6"	1"		x	NLA	60 1/2"			6 mm	x	
FC 75	4137 710 7111*	59 1/2"	1"		x	4137 711 3202	60 1/2"			6 mm	x	
FC 90	4137 710 7111	59 1/2"	1"		x			5 mm □ 5 mm	5 mm □ 5 mm			
FC 95												
FSE 60	4809 710 1700	48 3/4"	1"		x	4130 711 3200	48 1/2"			6 mm	x	
FH 75	4230 710 7101	59"	1"	x		4137 711 3200	60 7/16"			6 mm		x
FSA 65	4852 710 7100	43 1/2"	1"		x	N/A	N/A	N/A	N/A	N/A		
FSA 85	4852 710 7101	48 1/2"	1"	x		N/A	N/A	N/A	N/A	N/A		
FS 36	4130 710 7131*	49"	1"		x	4130 711 3200	48 1/2"	5 mm 3/16 □ 5 mm	5 mm 3/16 □ 5 mm	6 mm	x	
FS 38	4140 710 1702	50"	1"		x	4130 711 3200	48 1/2"	5 mm □ 5 mm	5 mm □ 5 mm	6 mm	x	
FS 40	4130 710 7136*	60 3/4"	1"		x	4137 711 3202	60 1/2"	5 mm 3/16 □ 5 mm	5 mm 3/16 □ 5 mm	6 mm	x	
FS 40 New	4140 710 1702	50"	1"		x	4130 711 3200	48 1/2"	5 mm □ 5 mm	5 mm □ 5 mm	6 mm	x	
FS 44	4130 710 7137	56"	1"	x		4130 711 3210	56 3/8"	5 mm 3/16 □ 5 mm	5 mm 3/16 □ 5 mm	6 mm	x	
FS 45, FS 46 (short)	4140 710 1702 assembly includes shaft	48 7/8"	1"		x	4130 711 3200	48 1/2"	5 mm □ 5 mm	5 mm □ 5 mm	6 mm	x	
FS 46 (Long)	4140 710 1706 assembly includes shaft	56"	1"		x	4130 711 3210	56 3/8"	5 mm 3/16 □ 5 mm	5 mm 3/16 □ 5 mm	6 mm	x	
FS 50 New	4140 710 1706	54 1/2"	1"		x	4130 711 3210	56 3/8"			6 mm	x	
FS 50 C New	4140 710 1700	46 1/2"	1"		x	4130 711 3200	48 1/2"			6 mm	x	
FS 48	NLA	49 1/4"	7/8"		x	NLA	49 3/4"			6 mm	x	
FS 52												
FS 56												
FS 55	4140 710 7101	55 5/8"	1"	x		4130 711 3210	56 3/8"			6 mm	x	
FS 56 New	4140 710 7101	55 1/2"	1"	x		4140 711 3202	56 1/2"			6 mm	x	
FS 60	4114 711 0200	53 7/8"	3/4"		x	NLA	55"	5 mm □ 5 mm	5 mm □ 5 mm	6 mm	x	
FS 61	NLA	64 5/8"	3/4"		x	NLA	65 3/4"			6 mm	x	
FS 62	NLA	65 3/8"	15/16"		x	NLA	65 3/4"			6 mm	x	
FS 65	NLA	59 1/16"	1"	x		NLA	60 9/16"			6 mm		x
FS 66	NLA	58 7/8"	15/16"	x		NLA	60 9/16"			6 mm		x
FS 70	4144 710 7106	55 1/2"	1"	x		4140 711 3202	56 1/2"			6 mm	x	
FS 72	NLA	48"	1"		x	NLA	48 1/2"			6 mm	x	
FS 74	NLA	59 1/8"	1"	x		NLA	60 1/2"			6 mm	x	
FS 75 old/short	NLA	48"	1"		x	4130 711 3200	48 1/2"			6 mm	x	
FS 75 long/new	4137 710 7112*	56"	1"		x	4130 711 3210	56 3/8"			6 mm	x	
FS 76	NLA	59 1/16"	15/16"	x		NLA	61"	7 mm ⬭ 5 mm	5.5 mm □ 5.5 mm	7 mm		x
FS 80 OLD	NLA	59 1/8"	1"	x		NLA	61"	7 mm ⬭ 5 mm	7 mm ⬭ 5 mm	7 mm		x
FS 80 AVE OLD	NLA	58 7/8"	1"	x		NLA	61"	7 mm ⬭ 5 mm	7 mm ⬭ 5 mm	7 mm		x
FS 80 New	4137 710 7100*	59"	1"	x		NLA	60 1/2"	5 mm □ 5 mm	5 mm □ 5 mm	6 mm	x	
FS 81	NLA	59 1/16"	15/16"	x		NLA	61"	7 mm ⬭ 5 mm	6.5 mm □ 6.5 mm	7 mm		x
FS 88												

Protective Tubes & Drive Shafts

Protective Tubes						Drive Shafts						
Model	Part #	Length	Diameter	STR	CUR	Part #	Length	Gearhead Dimension	Clutch Dimension	Diameter	Flex	Solid
FS 85 FS 110 FS 120 FS 200	4137 710 7100*	59"	1"	x		4137 711 3200	60 1/2"			6 mm		x
FS 86 FS 90 FS 96 FS 106 FS 108	NLA	59 1/8"	1 1/16"	x		NLA	61 3/16"			8 mm		x
FS 90 New FS 100 R FS 110 R	4137 710 7100	59"	1"	x		4137 711 3200	60 1/2"			6 mm		x
FS 94	4149 710 7144	59"	1"	x		4137 711 3202	60 1/2"			6 mm	x	
FS 100 RX FS 110 RX	4137 710 7100	59"	1"	x		4137 710 3202	60 1/2"			8 mm		Hollow
FS 130	4137 710 7134	59 1/2"	1"	x		4137 711 3200	60 1/2"			6 mm		x
FS 160 FS 180	4119 710 7109*	59 1/16"	15/16"	x		4119 711 3212	61 7/16"			8 mm		x
FS 150 FS 151 FS 353	NLA	54 3/8"	1 3/8"	x		4110 710 3390	55"		14 mm	15 mm		x
FS 220 FS 280	NLA	55 15/16"	1 1/8"	x		4119 711 3210	58 3/16"			8 mm		x
FS 240	4137 710 7134	59"	1"	x		4147 711 3211	60 1/2"			6 mm		x
FS 240 R	4147 710 7122	61 1/2"	1"	x		4147 711 3201	63 1/2"			6 mm		x
FS 250	4137 710 7134	59"	1"	x		4137 711 3200	60 7/16"			6 mm		x
FS 310 FS 350	4134 710 7109	58 3/4"	1 3/8"	x		4134 711 3200	60 1/2"			8 mm		x
FS 360 C-E FS 460 C-EM	4147 710 7108	58 1/4"	1"	x		4147 711 3200	60"			8 mm		x
FS 360 FS 420	NLA	54 1/2"	1 3/8"	x		4116 711 3212	56 1/6"			9 mm		x
FS 450 K	4128 710 7113	53 1/2"	1 1/8"	x		4128 711 3210	55 1/4"			9 mm		x
FS 550	4116 710 7155	54 1/2"	1 3/8"	x		4116 711 3212	56 1/6"			9 mm		x
FSE 60	4809 710 1700	48 3/4"	1"		x	4130 711 3200	48 1/2"			6 mm	x	
HL 75	4230 710 7101	59"	1"	x		4137 711 3200	60 7/16"			6 mm	x	
HT 56	4139 710 7105	54 1/4"	1"	x		4139 711 3201	53 3/4"			8 mm	x	
HT 70	4138 710 7110	59"	1"	x		4137 711 3202	60 1/2"			6 mm		x
HT 130	4182 710 7105	60"	1"	x		4182 710 3200	60 1/2"			8 mm	x	
HT 100	4138 710 7110	59"	1"	x		4137 711 3200	60 1/2"			6 mm		x
KW 85	4602 710 7104	NA				4137 711 3200	60 7/16"			6 mm		x

Hedge Trimmer Blade Replacement Chart

Model	Blade Length	Two-Blade Set	Complete Assy.	Flat Spring	Top Guide	Bottom Guide
Previous Models						
HS 61	24" (600 mm)	4226 710 6051	4226 710 5903	4230 713 1715	4226 704 3501	4226 740 6501
HS 246	24" (600 mm)	4226 710 6051	4226 710 5903	4226 713 1700	4226 704 3501	4226 740 6501
HS 72	17" (450 mm)	NLA	4226 710 5932	NLA	NLA	NLA
HS 74	24" (600 mm)	4226 710 6051	4226 710 5903	4226 713 1700	4226 641 4600	Same As Top
HS 76	28" (750 mm)	4226 710 6058	4226 710 5923	4226 713 1701	NLA	NLA
HS 76	40" (1000 mm)	NLA	4226 710 5953	4226 713 1703	NLA	NLA
HS 81 T	24″ (600 mm)	4237 710 6051	4237 710 5901	4237 713 2200	4237 641 4601	Not Available
HS 81 T	30″ (750 mm)	4237 710 6052	4237 710 5902	4237 713 2201	4237 641 4602	Not Available
HS 86 T	30″ (750 mm)	4237 710 6055	4237 710 5905	4237 713 2201	4237 641 4602	Not Available
HS 86 T	40″ (1000mm)	4237 710 6056	4237 710 6056	4237 713 2202	4237 641 4603	Not Available
Current Models						
FH 75	12″ (300 mm)	4230 710 6052	4230 710 6020	4230 713 1715	4230 641 4615	Same As Top
HL 45	22″ (550 mm)	4230 710 6051	NLA	4226 713 1700	4226 641 4600	Same As Top
HL 75	22" (550 mm)	4230 710 6051	NLA	4226 713 1700	4226 641 4600	Same As Top
HL 75 K	22" (550 mm)	4230 710 6051	NLA	4226 713 1700	4226 641 4600	Same As Top
HS 45	18" (450 mm)	4228 710 6050	Not Available	Not Available	4228 641 4600	Not Available
HS 45	24" (600 mm)	4228 710 6051	Not Available	Not Available	4228 641 4610	Not Available
HS 46	22" (550 mm)	4242 710 6001	Not Available	Not Available	Not Available	Not Available
HS 56	24" (600 mm)	4242 710 6002	Not Available	Not Available	Not Available	Not Available
HS 81 T	24″ (600 mm)	4237 710 6051	4237 710 5901	4237 713 2200	4237 641 4601	Not Available
HS 81 T	30″ (750 mm)	4237 710 6052	4237 710 5902	4237 713 2201	4237 641 4602	Not Available
HS 86 T	30″ (750 mm)	4237 710 6055	4237 710 5905	4237 713 2201	4237 641 4602	Not Available
HS 86 T	40″ (1000 mm)	4237 710 6056	4237 710 6056	4237 713 2202	4237 641 4603	Not Available
HS 82	20″ (500 mm)	4237 710 6050	4237 710 5913	4237 713 2205	4237 641 4605	4237 710 3101
HS 82	24″ (600 mm)	4237 710 6051	4237 710 5914	4237 711 4800	4237 641 4601	4237 717 3100
HS 87	30″ (750 mm)	4237 710 6055	4237 710 5905	7237 717 3100	4237 641 4602	4237 711 4800
Replacement Blades For Models Below Serial # 245 521 843						
HS 75	18" (420 mm)	NLA	4226 710 5932	NLA	NLA	NLA
HS 80	24" (550 mm)	NLA	4226 710 5903	4226 713 1700	4226 641 4600	Same As Top
HS 80	30" (700 mm)	NLA	4226 710 5942	4226 713 1701	NLA	NLA
Replacement Blades For Models Above Serial # 245 521 843						
HS 75	18" (500 mm)	4226 710 6050	4226 710 5932	4230 713 1715	4226 704 3500	4226 740 6500
HS 80	24" (600 mm)	4226 710 6051	4226 710 5903	4230 713 1715	4226 704 3501	4226 740 6501
HS 80	30" (700 mm)	4226 710 6061	4226 710 5942	4230 713 1715	4226 704 3502	4226 740 6502
Replacement Blades For Models Below Serial # 245 528 443						
HS 85	30" (700 mm)	4226 710 6058	4226 710 5923	4226 713 1701	NLA	NLA
HS 85	40" (1000 mm)	NLA	4226 710 5953	4226 713 1703	NLA	NLA
Replacement Blades For Models Above Serial # 245 528 443						
HS 85	30" (750 mm)	4226 710 6053	4226 710 5923	4230 713 1715	4226 704 3503	4226 740 6503
HS 85	40" (1000 mm)	4226 710 6054	4226 710 5953	4230 713 1715	4226 704 3504	4226 740 6504
Replacement Blades For New Battery Powered Models						
HLA 65	20″ (550 mm)	4859 710 6050	4859 710 5900	4859 713 2200	4859 713 6700	Not Available
HLA 85	20″ (550 mm)	4859 710 6050	4859 710 5900	4859 713 2200	4859 713 6700	Not Available
HSA 65	20″ (500 mm)	4851 710 6052	4851 710 5902	Not Available	4851 713 6704	4851 713 6702

Lube & Cleaner for Hedge Trimmers and Brushcutters

Description	Part #
Hedge Trimmer Gear Box Grease 80 gm Tube	0781 120 1109
Hedge Trimmer Gear Box Grease 225 gm Tube	0781 120 1110
Brushcutter Gear Box Grease 80 gm Tube	0781 120 1117
Brushcutter Gear Box Grease 225 gm Tube	0781 120 1118
Press Fluid	0781 957 9000
Resin Solvent Cleaner 9 oz. aerosol can	7010 871 0157

Chain Saw Model Conversion Chart

Previous Versions	HP	C.I.	C.C.	New Versions	HP	C.I.	C.C.
08 S/S 10	3.4/3.0	3.42	56	MS 362 C-M	4.6	3.6	59
009 E*	1.6	2.23	36.6	MS 193 C-E	1.7	1.84	30.1
009 L*	2.0	2.49	40.8	MS 193 C-E/MS 251	1.7/2.95	1.84/2.78	30.1/45.6
010 AV	1.6	2.23	36.6	MS 211	2.3	2.2	35.2
011 AV	2.0	2.49	40.8	MS 250/ MS 251	3.0/2.95	2.77/2.78	45.4/45.6
011 T	2.0	2.49	40.8	MS 250/ MS 251	1.7	1.84	30.1
012	2.3	2.76	45.2	MS 250/ MS 251	3.0/2.95	2.77/2.78	45.4/45.6
015	2.0	1.96	32	MS 181 C-BE	1.7/2.0	1.84/1.95	30.1/31.8
017	1.6	1.84	30.1	MS 150 C-E/MS 170	1.7/1.7	1.84	30.1
018	1.87	1.95	31.8	MS 180/ MS 181 C-BE	2.0/2.0	1.95	31.8
019 T	1.7	2.15	35.2	MS 193 T	1.7	1.84	30.1
MS 191 T, 192 T	1.9	2.82	46.5	MS 193 T	1.7	1.84	30.1
020 AV PRO	2.3	2.15	35.2	MS 201 C-E	2.1	2.15	35.2
020 AVSE/020 T	2.2	2.15	35.2	MS 201 T	2.1	2.15	35.2
MS 200 T	2.1	2.15	35.2	MS 201 T	2.4	2.15	35.2
021/MS 210	1.8	2.15	35.2	MS 211	2.3	2.2	35.2
023/MS 230	2.5	2.45	40.2	MS 251	2.95	2.78	45.6
024 AV	2.8	2.6	42	MS 241 C-M/ MS 261 C-M	3.1	2.6	42.6
024 SUPER	3.1	2.7	44.3	MS 241 C-M/ MS 261 C-M	3.1	2.6	42.6
025/MS 250	3.0	2.77	45.4	MS 251	2.95	2.78	45.6
026/026 PRO	3.5	2.97	48.7	MS 261 C-M	3.9	3.08	50.5
MS 260 PRO	3.5	2.97	48.7	MS 261 C-M	3.9	3.08	50.5
MS 270	3.2	3.06	50.2	MS 241 C-M	3.49	3.06	50.2
028 AV	2.9	2.9	47	MS 241 C-M	3.1	2.6	42.6
028 SUPER	3.4	3.12	51	MS 271	3.49	3.06	50.2
029	3.6	3.45	56.5	MS 291	3.76	3.39	55.5
MS 290	3.8	3.45	56.5	MS 271	3.49	3.06	50.2
030/031	3.2	2.9	48	MS 271	3.49	3.06	50.2
MS 310	3.6	3.6	59	MS 311	4.2	3.6	59
032 AV	3.4	3.11	51	MS 271	3.49	3.06	50.2
034 AV	4.0	3.4	56.4	MS 311	4.2	3.6	59
036/036 PRO/MS 260 PRO	4.4	3.75	61.5	MS 362 C-M	4.69	3.6	59
MS 361	4.4	3.6	59	MS 362 C-M	4.6	3.6	59
038 AV	5.0	4.1	67	MS 441 C-M	5.5	4.3	70.7
038 MAG	5.1	4.4	72	MS 441 C-M	5.5	4.3	70.7
039	4.3	3.9	64.1	MS 391	4.4	3.9	64.1
MS 390	4.3	3.9	64.1	MS 391	4.4	3.9	64.1
040/041 AV	3.6	3.72	61	MS 291	3.76	3.39	55.5
044	5.1	4.3	70.7	MS 461	5.9	4.7	76.5
045 AV	5.3	4.94	81	MS 461	5.9	4.7	76.5
046	5.9	4.7	76.5	MS 461	6.0	4.7	76.5
042/048 AV	5.2	4.7	77	MS 461	6.0	4.7	76.5
050/051 AV	5.8	5.42	89	MS 661 C-M	7.2	5.56	91.1
056 AV	5.3	4.94	81	MS 661 C-M	7.2	5.56	91.1
056 SUPER	5.6	5.31	87	MS 661 C-M	7.2	5.56	91.1
056 MAG	6.8	5.7	94	MS 661 C-M	7.2	5.56	91.1
064	6.4	5.18	84.9	MS 661 C-M	7.2	5.56	91.1
066	7.0	5.59	91.6	MS 661 C-M	7.2	5.56	91.1
076 SUPER	7.0	6.71	110	MS 880	8.6	7.42	121.6
084	8.5	7.42	121.6	MS 880	8.6	7.42	121.6
090 AV	12	8.4	137	MS 880	8.6	7.42	121.6

Lithium-Ion Battery Specifications

	AP 80	AP 100	AP 160	AP 180	AP 300	AR 900
MSA 160 C-BQ	n/a	17 min.	35 min.	40 min.	50 min.	180 min.
MSA 200 C-BQ	n/a	15 min.	n/a	35 min.	45 min.	160 min.
HSA 65	45 min.	45 min.	80 min.	85 min.	108 min.	450 min.
HSA 66	60 min.	60 min.	120 min.	140 min.	180 min.	660 min.
HLA 85	60 min.	60 min.	n/a	120 min.	180 min.	660 min.
HTA 65	n/a	17 min.	n/a	40 min.	50 min.	180 min.
HTA 85	n/a	17 min.	35 min.	140 min.	180 min.	660 min.
BGA 85*	7 min.	7 min.	16 min.	17 min.	24 min.	90 min.
BGA 100*†	10 min.	10 min.	22 min.	25 min.	34 min.	130 min.
FSA 65	30 min.	30 min.	60 min.	70 min.	90 min.	330 min.
FSA 85	15 min.	15 min.	30 min.	35 min.	45 min.	160 min.
FSA 90 R	10 min.	10 min.	21 min.	24 min.	30 min.	120 min.
RMA 370**	n/a	1,500 sq. ft.	3,000 sq. ft.	3,300 sq. ft.	4,000 sq. ft.	n/a
TSA 230	n/a	6 min.	13 min.	15 min.	18 min.	75 min.

*BGA 85 & 100- Measured at the mid-range power setting
†BGA 100 - Power Cable with AP Adapter for AR 900 (Part #: 4850 440 5001) or AP Belt Bag with Power Adapter (Part #: 4850 440 5100) needed for BGA 100, sold separately
**RMA 370 - Measured by the area mowed in square feet

Note: Runtime on a single battery charge can vary based on battery type, charge level, tool model, operating conditions, user operating style, and remaining battery capacity.

Battery Specifications & AR 900

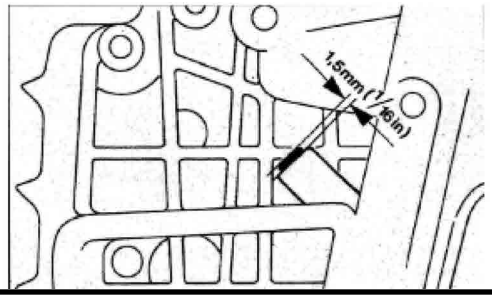
Battery	AP 80	AP 160	AP 180	AR 900
Type	Li-Ion	Li-Ion	Li-Ion	Li-Ion
Rated voltage (V)	36	36	36	36
Power (Wh)	76	162	178	891
Weight (lbs)	2.6	3.8	3.8	15.7
Charge time (min)				
AL 300 80%	25	35	40	190
100 %	50	60	70	250
AL 500 80%	25	35	25	100
100%	50	60	30	130

Frequently Asked Questions (FAQ's)

STIHL®

Oil leak behind muffler? (Series: 1123, 1127, 1130)

- If the counter bore plug has come out, replace it with a grub screw. Part Number 9134 381 1230
- Coat the grub screw with Dirko and screw it in until it projects out of the hole about 1/16". The grub screw will cut its own threads.



STIHL®

Series: 1123 (MS 210/230/250) & 1127 (MS 290/310/390) Which Seal do I use (reference #11)?

1127 Series (MS 290, MS 310, MS 390)

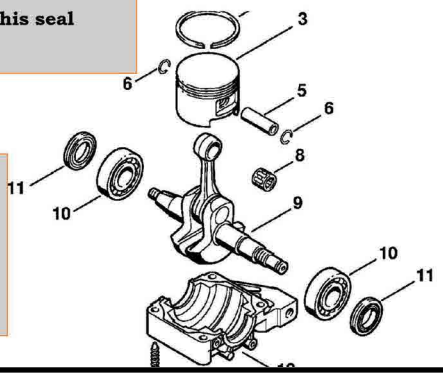
9639 003 1743 If you split the cylinder and pan use this seal.
Spring on the seal will face inward.

9639 010 1743 When you do not split them use this seal
Ring on this seal will face out.

1123 Series (MS 210, MS 230, MS 250)

9639 003 1585 If you split the cylinder and pan
The spring on the seal will face inward

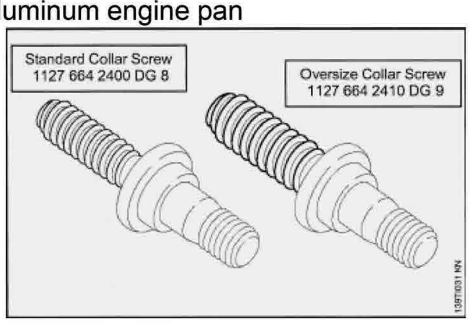
9639 010 1581 When you do not split them
Ring on this seal will faces out



Frequently Asked Questions (FAQ's)

1127 Series
What if the Front bar studs strip out?

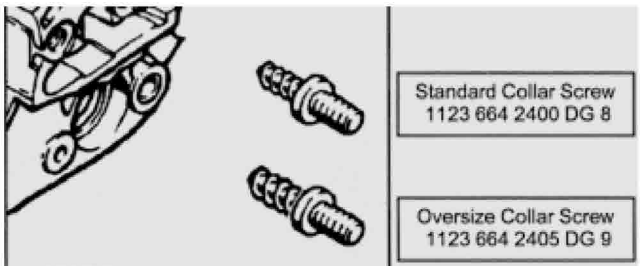
- Use oversized bar studs
  - 1127 664 2410 front bar stud on MS 290/310/390 that engages polymer housing
    - For back bar stud you must use helical because the back stud engages aluminum engine pan



MS 271/291 & MS 311/391 Oversize Bar Stud Part # **0000 664 2411**

1123 Series
What if the bar studs strip out?

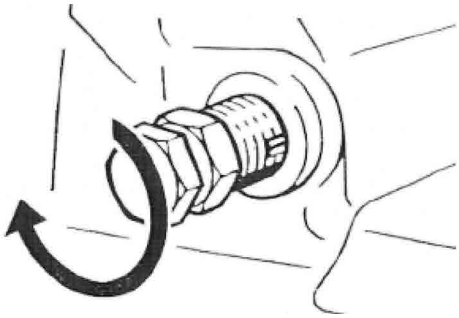
- 1123 664 2405 front and back oversized bar stud for
  - MSE 140 C, MSA 160 C, 017/018, MS 170/171/180/181
  - 019, MS 191/192, 021/023/025, MS 210/230/250



Frequently Asked Questions (FAQ's)

What do I do if I damaged DG screw in polymer housing?

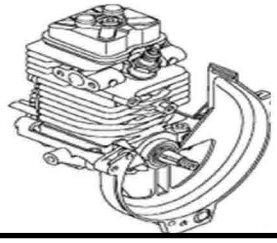
- 9795 003 0840 converts damaged 4mm DG threads to 4mm machine thread.
- 9799 543 0900 converts damaged 6mm DG threads to 6mm machine thread.

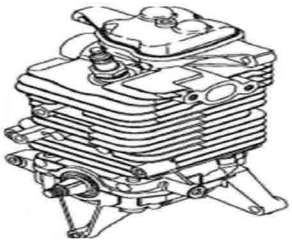


Can I buy a short block for a STIHL unit?

The only short blocks available are for STIHL 4-Mix models.

(4180) FS 90 R	4180-020-0202
(4180) FS 100 RX	4180-020-0200
(4180) FS 110 R	4180-020-0200
(4180) FS 130 R	4180-020-0201
(4282) BR 500, 550, 600	4282-020-0200





Frequently Asked Questions (FAQ's)

How do I convert my BT 45 Earth Auger Drill (EAD) or Wood Boring Drill (WBD)

- To convert it from a EAD to a WBD
  - Order the 4134 007 1000 WBD Handle Kit
  - The kit Includes
    - Jacob Chuck 4314 680 4000
    - Screw 9061 373 1350
    - Handle 4314 790 0300
    - You will need a T 45 torx wrench (5910 890 0105)
- To convert it from WBD to a EAD
  - Order 4314 007 1001 EAD Handle Kit
  - The kit Includes
    - Flange 4314 680 3700
    - Handle 4314 680 3800
    - Adapter 4314 682 3900
    - Bushing 4314 681 0100

Starting Rope Warranty

- Do not warranty bulk rope
- Use part number 4237 195 8200

Frequently Asked Questions (FAQ's)

Shop Service Aids

Part Number	Description
0781 120 1109	Hedge Trimmer Gear Box & Trimmer Shaft Grease (80gm)
0781 120 1110	Hedge Trimmer Gear Box & Trimmer Shaft Grease (225gm)
0781 120 1117	Brushcutter Gear Box Grease (80gm)
0781 120 1118	Brushcutter Gear Box Grease (225gm)
0781 120 1004	MM/BC/BF Gear Box Grease "Super High Temp"
0781 120 6000	Shaft Grease HT (40gm)
0783 830 2000	Sealing Compound (Dirko)
0781 957 9000	Press Fluid

Carb Service Tools

- All of these are necessary for service and repair of STIHL carburetors today
- 5910 890 4502
- 5910 890 4501
- 5910 890 4500
- 5910 890 2310
- 5910 890 2307
- 5910 890 2306
- 5910 890 2305
- 5910 890 2304

Frequently Asked Questions (FAQ's)

STIHL®

How to remove a fan wheel from a BR 600

Normal right hand threads, Use piston stop 4282 890 2700,

½" breaker bar w/ 17 mm socket, the nut is a molded part of the fan wheel

Do not use an impact wrench

1. Limited Warranty Coverage

Any failure due to defects in materials or workmanship occurring during the applicable warranty period, subject to the exclusions and limitations set forth in the following paragraphs. Limited warranty coverage applies only to STIHL products that are purchased from and repaired by authorized STIHL dealers located in the United States and U.S. territories.

2. Persons Covered By This Limited Warranty

A. The original retail purchaser herein referred to as the “Consumer”.

3. Limited Warranty Period

The following respective limited warranty time periods apply to STIHL products:
A. For gasoline powered chain saws and 120 volt a.c. electric chain saws (and the guide bar and saw chain loop assembled as an integral part of the machine), excluding top handle models:
1. One year from date of purchase when used for personal non-income producing household purposes.
2. Three months from date of purchase when used for profit or non-profit organizational, commercial, professional, rental or income producing purposes.
B. For gasoline powered and battery powered top handle chain saw models (and the guide bar and saw chain loop assembled as an integral part of the machine):
1. Three months from the date of purchase.
C. For battery powered tools (excluding top handle chain saws and cut-off machines), rechargeable batteries and battery chargers, trimmers, brushcutters, clearing saws, blowers, gasoline powered sprayers, vacuum/shredders, hedge trimmers, edgers, tree pruners, power sweepers, KM and MM multi-tool machines and their respective attachments, accessory gearbox attachments, vacuum cleaners, BT drill and auger models (and their respective attachments purchased as an integral part of the machine at the same time the machine is purchased):
1. Two years from the date of purchase except for rental use.
2. Three months for rental use from date the product is placed into rental service.
D. For all gasoline powered and battery powered STIHL cut-off machines, cut-off machine wheels, cut-off machine attachments, GS concrete cutter and GS attachments:
1. Three months from the date of purchase.
E. For all SG manual pump sprayers:
1. One year from the date of purchase except for rental use.
2. Three months for rental use from date the product is placed into rental service.
F. *Double warranty coverage:* For gasoline powered chain saws and gasoline powered power tools (and their respective attachments purchased as an integral part of the machine at the same time the machine is purchased), excluding the products listed in paragraph F.1, when used for personal non-income producing household purposes sold after January 1, 2011; the limited warranty time periods described in paragraphs 3.A.1 and 3.C.1 will be doubled if the original consumer purchases a 6-pack of STIHL HP Ultra 2-cycle engine oil (any size containers) or a minimum of one gallon of STIHL MotoMix® premixed fuel at the time the machine is purchased. The consumer’s invoice must reflect the STIHL HP Ultra oil or STIHL MotoMix® fuel purchase and machine purchase along with the machine’s serial number. The product registration must have the oil or fuel purchase selected on the registration form. The consumer should retain a copy of the invoice for the length of the limited warranty time period as proof of purchase. STIHL Incorporated reserves the right to request a copy of the invoice to verify limited warranty coverage in the event a warranty repair is made to the machine.
1. Double warranty coverage does not apply for top handle chain saws, TS cut-off machines, GS concrete cutters, non-gasoline powered products or products used for profit or non-profit organizational, commercial, professional, rental or income producing purposes.
G. *Drive shaft limited warranty:* The flexible and solid drive cables on STIHL FS trimmers, brushcutters, clearing saws; FC edgers, HT fixed length pole pruners (HT telescoping shafts are excluded), KM and MM multi-task tools, KM attachments, and HL hedge trimmer models are warranted to the original retail purchaser for as long as the appropriate spare part continues to remain available from STIHL. Products used for rental use are excluded.
H. *Hand tool limited warranty*: All STIHL model PA axes, PH hedge shears, PL loppers, PP pruners and PS pruning saws are warranted to the original retail purchaser for as long as the appropriate spare part or product continues to be available from STIHL. Products used for rental use are excluded.
I. Replacement cutting attachments, cutting tools, and cutting heads (except for those purchased as an integral part of the machine as described in paragraphs 3A, 3B and 3C), auger bits and drill bits, repair parts, forestry apparel and all other STIHL accessories or products not described in paragraphs 3A through 3H:
1. Three months from the date of purchase.

4. Warrantor

STIHL Incorporated
536 Viking Drive
Virginia Beach, VA 23452
STIHL Customer Service phone number: (800) 467-8445
Internet website: www.stihlusa.com

5. Emission Control Systems Limited Warranty Coverage

STIHL products designed to meet Federal EPA and California emissions standards for small non-road utility engines have additional emission control system limited warranty coverage. An explanation of the emission control system limited warranty coverage can be found in the instruction manual supplied with the product.

6. Warranty Exclusions, Limitations and Rights

A. The following are not covered by this limited warranty:
1. STIHL products purchased from anyone other than an authorized STIHL dealer located in the United States or U.S. territories. The STIHL limited warranty may not be transferred by the consumer to any subsequent purchaser. Only STIHL Incorporated can transfer the limited warranty to a subsequent purchaser.
2. Repairs or replacements not performed by an authorized STIHL dealer located in the United States or U.S. territories.
3. Any failure resulting from the use of parts or components not supplied by STIHL.
4. Parts or components not supplied by STIHL, or parts or components that have been modified.
5. Repairs made necessary by gasoline containing more than 10% (E10) ethanol content (i.e. E15, E25, E30, E50, E85).
6. Any failure that results from accident, impact, abuse, misuse, neglect, mishandling, dulling of cutting edges, or failure to operate the product in accordance with the information provided in the instruction manual supplied with the product.
7. Items or service required when performing normal and regular maintenance of the product, e.g. valve adjustments, spark plugs, filters, lubricants, starter cords, carburetor adjustments, engine tune-ups, sharpening, cleaning of combustion deposits, etc.
8. Normal adjustments and recommended maintenance as described in the instruction manual supplied with the product.
9. Repairs made necessary by normal wear, improper maintenance, improper lubrication, improper storage, dirt, abrasives, impact, moisture, water, rain, snow, freezing, rust, corrosion, varnish, stale fuel, gasoline additives, fuel deposits, carbon deposits, oil deposits or other similar conditions.
10. Repairs made necessary due to improper oil mix ratios or the use of mix oils and other lubricants not specified in the product's instruction manual.
11. Any failure caused by lubricants not supplied by STIHL.
12. Any failure resulting from the use of improper tools or improper repair procedures.
13. Improper voltage for electric products and batteries that have been exposed to temperatures beyond those specified in the product's instruction manual, batteries that have not been properly charged or batteries that have reached their useful life.
B. THE WARRANTOR WILL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SET FORTH HEREIN. ANY WARRANTY IMPLIED BY STATE LAW (WHETHER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR OTHERWISE) SHALL BE EFFECTIVE FOR ANY PRODUCT ONLY FOR THE DURATION OF THE APPLICABLE LIMITED WARRANTY PERIOD LISTED IN PARAGRAPH 3. SOME STATES DO NOT ALLOW EXCLUSIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES AND/OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE EXCLUSIONS AND LIMITATIONS MAY NOT APPLY TO YOU.
C. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

7. Duties of the Dealer

Complete the product registration information and submit it to STIHL Incorporated electronically or at the address set forth in paragraph 4. COMPLETION AND RETURN OF THE PRODUCT REGISTRATION INFORMATION, WITHIN 10 DAYS OF ORIGINAL PURCHASE, IS REQUESTED TO REGISTER THE CONSUMER'S PURCHASE.

8. Duties of the Consumer

A. Use reasonable care in the maintenance, operation, and storage of the product as explained in the instruction manual.
B. Should any failure covered by this limited warranty occur, the Consumer must deliver or ship the product to any authorized STIHL dealer in the United States or U.S. territories for repair and provide proof of purchase date. Freight costs and transportation charges if any, will be borne by the Consumer.

9. Duties of the Warrantor

A. Any defective product or component covered by this limited warranty will be repaired or replaced at the option of the warrantor at no cost to the Consumer.
B. Product failures covered by this limited warranty will be scheduled and repaired according to the normal workflow of the authorized STIHL dealer to whom the product is delivered for service depending upon the availability of replacement parts.
C. If the Consumer does not receive satisfactory results from the authorized STIHL dealer, the Consumer may contact the STIHL Customer Service Department at the address set forth in paragraph 4.

Warranty Time Periods by Product

Product Type	Personal Household Use	Commercial, Professional Use
MS Chain Saws (excluding top handle models)	1 year	3 months
MS Chain Saws With a Top Handle (i.e. MS xxx **T** or MSA xxx **T**) Top handle chain saws are for in-tree professional use only!	Not Applicable	3 months
MSE 120 Volt A.C. Electric Chain Saws	1 year	3 months
FS Trimmers, Brushcutters and Clearing Saws	2 years Flexible and solid drive cables on FS trimmers, brushcutters, clearing saws, FC edgers, HL hedge trimmers, KM and MM multi-task tools, KM attachments, and fixed length HT pole pruners will be covered by limited warranty to the original retail purchaser for as long as the appropriate spare part continues to remain available from STIHL.	
FSE 120 Volt A.C. Electric Trimmers		
FC Edgers		
HL Extended Reach Hedge Trimmers		
KM Multi-Task Tools & KM Attachments		
MM Multi-Task Tools & MM Attachments		
HT Pole Pruners Fixed Length Models		
HT Pole Pruners Telescoping Models	2 years	
HS Hedge Trimmers		
HSE 120 Volt A.C. Electric Hedge Trimmers		
BG Handheld Blowers		
BGE 120 Volt A.C. Electric Handheld Blowers		
SH Shredder Vac/Blowers		
BR Backpack Blowers		
SR Backpack Sprayers		
BT Augers & Drill		
SE Vacuum Cleaners		

Product Type	Personal Household Use	Commercial, Professional Use
SG Manual Pump Sprayers	1 year	1 year
TS Cut-Off Machines	3 months	
TSA Cordless Electric Cut-Off Machine		
GS Concrete Cutter		
Cordless Electric Battery Products		
MSA Chain Saws (excluding top handle models)	2 years	
MSA Chain Saws With a Top Handle (i.e. MSA xxx **T**) Top handle chain saws are for in-tree professional use only!	Not Applicable	3 months
FSA Trimmers and Brushcutters	2 years	
BGA Handheld Blowers		
HSA Hedge Trimmers		
HLA Extended Reach Hedge Trimmers		
HTA Pole Pruners		
RMA Lawnmowers		
TSA Cut-Off Machine	3 months	
Batteries & Chargers	2 years	

All STIHL products & components are warranted for three months, or the applicable emission-related parts warranty period, when the product is used for rental purposes.

Summary of Extended Warranty Coverage
Past to Present

January 1, 2016

The following is a summary of some extended warranty coverage policies and effective dates to use for reference when repairing machines sold in prior years. Refer to the STIHL Incorporated Limited Warranty Policy that was in effect at the time of sale for detailed limitations, exclusions and restrictions to type of use. Note: any changes to STIHL Incorporated's limited warranty time period coverage are not retroactive to machines purchased prior to the change unless specifically described in STIHL Incorporated's Limited Warranty Statement.

IMPORTANT ELECTRONIC IGNITION EXTENDED WARRANTY INFORMATION:
Extended warranty coverage for electronic ignition systems applies to the electronic trigger module only, hereinafter referred to as "ignition module". Breaker points, condensers, and ignition coils are not included in this warranty coverage unless the electronic trigger module is an integral component of the ignition coil.

Electronic Ignition Modules-Chain Saws Sold July 1, 1986 – June 30, 1995:
Models 009, 011, 012, 020T, 021, 023, 024, 025, 026, 028, 029, 034, 036, 039, 044, 064, 066, & 084 sold between July 1, 1986 and June 30, 1995 have limited lifetime electronic ignition module warranty coverage for parts & labor to replace the electronic ignition module to the original purchaser until the appropriate spare part is no longer available from STIHL.

Electronic Ignition Modules-Power Tools Sold January 1, 1989 – June 30, 1995:
Models FS 36, FS 40, FS 44, FS 48, FS 52, FS 62, FS 66, FS 72, FS 74, FS 76, FS 81, FS 86, FS 88, FS 106, FS 160, FS 180, FS 220, FS 280, FS 360, FS 420, FC 44, FC 72, BG 75, BR 106, BR 320, BR 400, BT106 sold between January 1, 1989 and June 30, 1995 have limited ignition warranty coverage for parts & labor to replace the electronic ignition module to the original purchaser until the appropriate spare part is no longer available from STIHL.

Electronic Ignition Modules-All Products Sold July 1, 1995 – March 2, 2003:
All models sold between July 1, 1995 and March 2, 2003 had limited electronic ignition warranty coverage for parts & labor to replace the electronic ignition module during the normal warranty period of the machine. The normal warranty period has expired, however the electronic ignition module **part only** is covered to the original purchaser until the appropriate spare part is no longer available from STIHL.

Electronic Ignition Modules-All Products Sold March 3, 2003 – December 31, 2010:
All models sold between March 3, 2003 and December 31, 2010 had limited electronic ignition warranty coverage for parts & labor to replace the electronic ignition module for the first 2 years after purchase. For an additional 3 years, replacement cost of the electronic ignition module **part only** is covered under the limited warranty policy.

Electronic Ignition Modules-All Products Sold On or After January 1, 2011:
All models sold on or after January 1, 2011 have limited electronic ignition warranty coverage for parts & labor to replace the electronic ignition module for 2 years after the date of purchase or the warranty time period of the machine, whichever is greater.

Electronic Ignition Modules-Replacement Parts:
If the machine was originally covered by a limited lifetime electronic ignition warranty policy and the electronic ignition module was replaced, the replacement electronic ignition module used for the repair continues to be covered to the original retail purchaser until the appropriate spare part is no longer available from STIHL. For products not having extended electronic ignition warranty coverage, the replacement electronic ignition module used to repair the machine has limited warranty coverage for 3 months or the remaining warranty time period of the machine, whichever is greater.

Power Tool Drive Shafts-Products Sold October 1, 1993 – June 30, 1995:
All power tools with a flexible drive shaft except FS 106, 108 models sold between October 1, 1993 and June 30, 1995 are covered under a limited lifetime warranty for the flexible drive shaft **(does not apply to products with solid drive shafts)**. This warranty covers the cost of parts & labor to the original purchaser for the life of the product or until the appropriate spare part is no longer available from the factory. The warranty only applies if the drive shaft has been maintained and lubricated as recommended in the product's instruction manual.

Power Tool Drive Cables-Products Sold On or After July 1, 1995:
All power tools with a flexible or solid drive cable **except any HT pole pruner models with extendable length shafts** sold on or after July 1, 1995 are covered under an extended limited warranty. This warranty covers the cost of parts & labor to replace the drive cable to the original purchaser until the appropriate spare part is no longer available from STIHL. The warranty only applies if the drive cable has been maintained and lubricated as recommended in the product's instruction manual.

Drive Shaft Warranty for HT Pole Pruner Models with Extendable Length Shafts:
The drive shaft warranty for any HT pole pruner models with extendable length shafts have the same limited warranty time period coverage as the machine.

Power Tool Clutch Systems-Products Sold January 1, 2000– December 31, 2015:
All STIHL FS trimmer, brushcutter, clearing saw, FC edger, fixed length HT pole pruner, KM and MM multi-task machines, KW powered sweeper, HS, HL and FH hedge trimmer, BT 45, BT 120 and BT 121 boring gear models purchased between January 1, 2000 and December 31, 2015 come with centrifugal clutch shoes which are warranted until the appropriate spare part is no longer available from STIHL while owned by the original purchaser.

2-Year Warranty Coverage for Professional Use – Products Sold On or After October 1, 2009:
Power Tool and Industrial Products sold prior to October 1, 2009 have one year of warranty coverage if used in professional or income producing use.

Machines Sold With 6-Pack of* STIHL HP Ultra *Engine Oil On or After January 1, 2011:
For all STIHL gasoline powered machines (with the exception of STIHL TS cut-off machine models, GS 461 concrete cutter and top handle chain saw models) sold on or after January 1, 2011 **that are used for personal non-income producing family or household purposes**; the standard warranty coverage period will be doubled if the original consumer purchases a 6-pack of STIHL HP Ultra 2-cycle engine oil at the time the machine is purchased. Any size 6-pack containers of STIHL HP Ultra 2-cycle engine oil qualify for this program. Refer to the STIHL Incorporated Limited Warranty Policy in effect at the time of sale for detailed time period coverage, limitations, exclusions and restrictions.

Machines Sold With 6-Pack of* STIHL HP Ultra *Engine Oil or a minimum of 1 gallon of* STIHL MotoMix® *Pre-Mixed Fuel On or After January 1, 2012:
For all STIHL gasoline powered machines (with the exception of STIHL TS cut-off machines, GS concrete cutter and top handle chain saw models) sold on or after January 1, 2012 **that are used for personal non-income producing household purposes**; the standard warranty coverage period will be doubled if the original consumer purchases a 6-pack of STIHL HP Ultra 2-cycle engine oil (any size containers) or a minimum of 1-gallon of STIHL MotoMix® pre-mixed fuel at the time the machine is purchased. Refer to the STIHL Incorporated Limited Warranty Policy in effect at the time of sale for detailed time period coverage, limitations, exclusions and restrictions.

Part Numbers for STIHL Warranty, Sales & Service Materials

Warranty Supplies

Warranty Claim Form 0453 932 0194
Warranty Policies & Procedures Manual 0457 102 0100
Warranty Repair Timetables Manual 0457 081 0100
Limited Warranty Statement Poster 0000 000 3223

Product Registration Supplies

Product Registration Form 0456 961 3000
Multi-Purchase Product Registration Form 0463 901 0208
Product Registration Return Envelope 0463 901 0107

Shop Service Items

ANSI Kickback Warning Decal for Chain Saws 0000 967 3613
STIHL Engine Check (1=pad of 50) 0457 197 0000
Engine Failure Analysis Manual 0457 981 0000
Fault Analysis Manual 0455 981 0123
Shop Repair Tags (1=pkg. of 500) 0000 000 2210

Reference Materials

Product Liability Guidelines Booklet 0457 979 0100
STIHL Special Tools Manual 0455 901 0123
Bar & Chain Catalog 0461 005 0000
Trimmer/Brushcutter Cutting Tools Catalog 0456 681 3023
STIHL Warning Poster for Cut-Off Machine Wheels 0463 901 0089

SATISFACTION STIHL® GUARANTEE

Bryan EQUIPMENT SALES

STIHL seven day satisfaction guarantee program allows you to receive a credit of 10% of retailer cost on serial numbered units if returned within seven days of purchase. TS and GS units do not qualify for guarantee. Please complete form below and mail, fax or email with a copy of the product registration form. Copy of registration not required if product is registered through STIHL eService.

Satisfaction claim forms must be submitted within 30 days of product return date.

Retailer Information

Date Sent: _____

STIHL Retailer #: _____

Retailer Name: _____

Customer Information

Customer Name: _____

Address: _____

City: _____ State:_____ Zip Code:_____

Product Information

Date Sold: _____

Date Returned: _____

Serial #: _____

Model / Part #: _____

Reason for Return:

_____

_____

_____

Submitted by: _____

Bryan EQUIPMENT SALES

457 Wards Corner Road Loveland, OH 45140 513-248-2000 FAX 800-762-5469
Email: info@bryanequipment.com

STIHL® Retailer Labor Rate Certificate

Account #_____

Retailer Name: _____

Address: _____

_____

_____

Phone Number: _____

My Distributor is: Bryan EQUIPMENT SALES

I hereby certify that my posted retail shop labor rate is $_____ per hour and that this is the true and correct rate that I charge all retail customers and is reflected on my invoices.

Included are copies of two (2) verifiable shop invoices for proof of rates.

Print Name:_____

Date:_____

Please E-Mail, Fax, or Mail this information to:

Bryan EQUIPMENT SALES

457 Wards Corner Road
Loveland, OH 45140
margieg@bryanequipment.com
Fax: (800) 762-5469

STIHL Engine Check

Customer Name:_____ Date: _____

Model #_____ Serial # _____

Service Technician:_____ Work Order # _____

If no fault or problem is found place a ✓ mark in the box

If a fault or problem is present place an X in the box and write out details of what was found

1. ☐ Deflectors, shrouds, covers _____
   _____
   ☐ Fasteners loose or missing _____
   _____
   Other observations _____
   _____
2. ☐ Warning Labels _____
3. ☐ Cutting Attachment: Note type & condition; any accessories present? _____
   _____
4. ☐ Belt tension and condition (TS)_____
   _____
5. ☐ Throttle operates smoothly _____
   ☐ Multi-Function lever works smoothly
   _____
   ☐ Chain brake actuates properly
   ☐ Throttle trigger lockout works properly
   ☐ Choke operates properly
   Other observations _____
6. ☐ AV system condition _____
7. ☐ Starter rope worn, frayed, length & diameter OK _____
8. ☐ Air Filter worn or damaged _____
   ☐ Air Filter packed with dirt or debris _____
   _____
   Other observations _____
   _____
9. ☐ Dirt or debris on clean side of filter _____
   _____
   ☐ Evidence of dirt in carburetor bore or on choke butterfly _____
   Other observations _____
   _____
10. ☐ Carburetor Screw Settings:
    Limiter Caps Present if equipped_____
    Verify settings if caps are missing or unit does not use limiter caps:
    H_____ L _____
11. ☐ Spark plug connection, terminal spring, and high-tension lead condition _____
    _____
12. ☐ Spark present with STIHL ZAT4 tester
    No - install new plug and retest _____
    Other observations _____
    ☐ Ignition shut off function _____
13. ☐ Spark plug correct heat range _____
    ☐ Spark plug carbon fouled _____
    ☐ Sooted over _____
    ☐ Normal in appearance _____
    ☐Spark plug gap _____
14. ☐ Muffler condition _____
    ☐ Spark arrester screen blocked or missing
    _____
    Other observations _____
15. **Four-Stroke Only**:
    ☐ Leak Down Test % of leakage _____
    If over 10%, location of leakage _____
    ☐ Valve clearance OK: intake, exhaust cold set at 0.1mm
16. **Two-Stroke Only**: Remove Muffler-
    ☐ Carbon deposits in exhaust port _____
    ☐ Piston condition _____
    ☐ Piston rings free _____
    ☐ Cylinder wall condition _____
17. ☐ Cooling fins blocked, cracked, broken off
    _____

18. ☐ Magneto air gap correct _____

19. ☐ Fuel have a stale odor _____
☐ Debris or water in tank _____
☐ Color of fuel _____
Other observations _____
_____

20. ☐ Fuel Filter appear dirty or restricted _____
_____
☐ Filter torn or damaged _____
Other observations _____
_____

21. ☐ Pressure test fuel line (0.8 bar) _____

22. ☐ Pressure test tank for leaks _____

23. ☐ Tank vent opens under vacuum _____

24. ☐ Remove carb, inspect intake side of piston condition if visible: if not visible wait until step 26 is complete to remove intake flange _____
_____

25. ☐ Impulse passage clear _____

26. ☐ Vacuum test crankcase to specifications and record results _____
_____
☐ Pressure test crankcase to specifications and record results _____
If values do not meet specifications, locate leaks and note results _____
_____
(On Four-Stroke re-install valve cover for above)

27. ☐ Crankshaft end play excessive _____
☐ Crankshaft side play excessive _____

28. Carb Check:
☐ Physical damage _____
☐ Throttle shaft loose in bore _____
☐ 10 PSI pressure test of inlet needle
☐ Internal contamination present _____
_____
☐ Condition of fuel inlet screen _____
☐ Condition of diaphragms: stiff, damaged
_____
(Use carburetor worksheet for further evaluation if necessary)

29. ☐ Any other observations about unit _____
_____

Final Running:
Check Specification Chart for RPM settings –
☐ Unit starts easily
☐ Set Idle RPM to: _____
☐ Verify WOT RPM to: _____
☐ Engine idle RPM change excessive at roll out
☐ Acceleration response OK
☐ Run under load satisfactory

Attachment:
☐ Chain oiler working
☐ Line advance operation OK
☐ Clutch disengaged at idle

Comments: _____

STIHL Engine Check TS 500i

Customer Name:_____ Date: _____

Serial # _____

Technician:_____ Work Order # _____

If no fault or problem is found place a ✓ mark in the box; if a fault or problem is present place an ✕ in the box and write out details of what was found

Quick Check: Does the unit have compression? ☐ Is the air filter clogged? ☐ Is the fuel fresh? ☐ With a new spark plug does the unit have spark? ☐ If no spark proceed to MDG 1 evaluation

1. ☐ Wheel guard, covers _____
   _____
   ☐ Fasteners loose or missing _____
   Other observations _____
   _____
2. ☐ Warning Labels _____
3. ☐ Cutting attachment condition if present
   _____
4. ☐ Belt tension and condition_____
   _____
5. ☐ Decompression valve “clicks” in open and closed position _____
6. ☐ On/Off switch and throttle interlock works properly _____
7. ☐ Throttle operates smoothly _____
8. ☐ AV system condition _____
9. ☐ Starter rope worn, frayed, length & diameter OK _____
10. ☐ Air filter worn, damaged or packed with dirt or debris _____
11. ☐ Dirt or debris on clean side of air filter ___
    _____
12. ☐ Inspect intake side of piston, machine marks visible _____
13. ☐ Spark plug connection, terminal spring and high-tension lead condition _____
14. ☐ Spark present with STIHL ZAT4 tester
    No - install new plug and retest _____
    ☐ Ignition shut off function _____
    ☐ Spark plug correct: Bosch WSR6F or NGK BPMR7A
    ☐ Spark plug condition _____
    _____
15. ☐ Crankshaft end play excessive _____
    ☐ Crankshaft side play excessive _____
16. ☐ Remove flywheel with 5910 890 4504 puller & 4238 894 1100 spacer, verify index key and inspect generator and flywheel magnets; clear out debris if required _____
17. ☐ Cooling system: cylinder fins blocked; flywheel fins cracked, broken off, caked
    _____
18. ☐ Muffler condition _____
    ☐ Spark arrester screen blocked or missing
19. Remove Muffler-
    ☐ Carbon deposits in exhaust port _____
    ☐ Piston condition _____
    ☐ Piston rings appear free in the ring lands
    _____
    ☐ Cylinder wall condition _____
20. ☐ Fuel appears fresh _____
    ☐ Debris or water in tank _____
21. ☐ Fuel Filter appears dirty or damaged ___
    _____
    Backflow filter with slight pressure to verify filter is not restricted _____

22. ☐ Pressure test fuel line to 0.8 bar _____

23. ☐ Pressure test fuel tank with adapter 5910 890 4100 to 0.8 bar for 20 seconds min ____
_____

24. ☐ Reinstall tank vent; vacuum test tank; vent should allow vacuum to bleed off _____; Pressure test vent with 0.3 bar and tank should hold for 20 seconds minimum _____
_____

25. ☐ Impulse signal present _____

26. ☐ Vacuum test crankcase with adapter 5910 890 4100 to -0.5 bar and record results; spec is not to drop by .3 bar within 20 seconds (always rotate crankshaft back and forth about ¼ turn while under vacuum to test seals) _____
☐ Pressure test crankcase to 0.5 bar and record results _____
locate leaks and note findings_____
_____

27. ☐ Expose wiring harness: wires are routed correctly; insulation in good condition _____
_____

28. ☐ Test fuel pump:
A. Connect tester in vacuum mode to inlet fitting, pump primer bulb; holds -0.2 bar at inlet fitting
B. Connect tester in pressure mode to outlet fitting, pump primer bulb; gauge must hold at 0.8 bar
C. Connect tester in pressure mode to fitting on back of pump, gently pump tester; gauge must hold at 0.8 bar pressure

29. ☐ Test fuel injection nozzle _____
GENTLY pump tester: pressure should build to about 0.3 to 0.4 bar and bleed down to 0.2 bar; Pressure must not bleed back down to zero

30. ☐ Perform MDG 1 evaluation; make note of any component failures; repair as needed
_____
_____
_____
_____
_____
_____
_____

31. ☐ Any other observations about unit _____
_____
_____
_____
_____
_____
_____

Final Running
☐ Unit starts easily _____
☐ Clutch must be disengaged at idle; engage at approx. 4000 RPM _____
☐ Acceleration response OK _____
☐ Run under load satisfactory _____
Comments:_____
_____
_____
_____
_____
_____
_____

Carburetor Reference Charts & Kits

Chain Saws

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
Contra Lightning	HL 112D	1106 120 0606	NLA		0000 007 1056
07/07 S	HL-155	1107 120 0606	NLA		0000 007 1057
08 S	HL-155	1107 120 0606	NLA		0000 007 1057
	HL-166	1108 120 0607	NLA	1106 007 1061	0000 007 1057
	LA-S8	1108 120 0608		1106 007 1061	0000 007 1084
S 10	HL-155	1107 120 0606	NLA		0000 007 1057
	HL-166	1108 120 0607	NLA	1106 007 1061	0000 007 1057
	HS-62	1108 120 0603	NLA		0000 007 1059
009	WA-56	1120 120 0600	1120 120 0605		0000 007 1064
	C1S-S1	1120 120 0605	1120 120 0605	4119 007 1060	0000 007 1082
	WT-323	1120 120 0606	1120 120 0605		0000 007 1065
	WT-563	1120 120 0601	NLA	NLA	0000 007 1065
	WA-99	1120 120 0602	1120 120 0605		0000 007 1063
	WT-29	1120 120 0604	1120 120 0605		0000 007 1065
	WT-21	1120 120 0603	1120 120 0605		0000 007 1065
010	WA-56	1120 120 0600	1120 120 0605		0000 007 1064
	WT-29	1120 120 0604	1120 120 0605		0000 007 1065
	C1S-S1	1120 120 0605	1120 120 0605	4119 007 1060	0000 007 1082
	WA-99	1120 120 0602	1120 120 0605		0000 007 1063
011	WT-21	1120 120 0603	1120 120 0605		0000 007 1065
	WT-29	1120 120 0604	1120 120 0605		0000 007 1065
	C1S-S1	1120 120 0605	1120 120 0605	4119 007 1060	0000 007 1082
	WA-99	1120 120 0602	1120 120 0605		0000 007 1063
012	C1S-S1	1120 120 0605	1120 120 0605	4119 007 1060	0000 007 1082
	WT-29	1120 120 0604	1120 120 0605		0000 007 1065
015	HDC-17	1116 120 0600	NLA		0000 007 1067
MS 150	C1Q-S262	1146 120 0604		1146 007 1000	7010 871 0236
020AV	WT-15	1114 120 0604	NLA		0000 007 1065
	WA-1	1114 120 0601	NLA	NLA	NLA
	WA-86	1114 120 0602	NLA		0000 007 1063
	HU-7A	1114 120 0600	NLA		0000 007 1052
017/MS 170	C1Q-S57	1130 120 0603		1130 007 1061	0000 007 1086
	WT-325	1130 120 0600	1130 120 0603	1123 007 1061	0000 007 1076
				1130 007 1001**	
	C1Q-S43	1130 120 0601	1130 120 0603	1130 007 1061	0000 007 1086
MS 171	C1Q-S123	1139 120 0607		4229 007 1060	7010 871 0229
	C1Q-S238	1139 120 0615		4229 007 1060	7010 871 0229
	C1Q-S270	1139 120 0619		4229 007 1060	7010 871 0229
	C1Q-S217A	1139 120 0610			7010 871 0229
018, MS 180	C1Q-S57	1130 120 0603		1130 007 1061	0000 007 1086
	C1Q-S43	1130 120 0601	1130 120 0603	1130 007 1061	0000 007 1086
MS 181	C1Q-S121	1139 120 0605		4229 007 1060	7010 871 0229
	C1Q-S122	1139 120 0606		4229 007 1060	7010 871 0229
	C1Q-S191	1139 120 0608		4229 007 1060	7010 871 0229
	C1Q-S239	1139 120 0616		4229 007 1060	7010 871 0229
	C1Q-S268	1139 120 0612		4229 007 1060	7010 871 0229
MS 181 C-BE	C1Q-S192	1139 120 0609		4229 007 1060	7010 871 0229
	C1Q-S269	1139 120 0613		4229 007 1060	7010 871 0229
019 T	C1Q-S46	1132 120 0603		1123 007 1060	0000 007 1087
	WT-451	1132 120 0600	1132 120 0603	1123 007 1061	0000 007 1072
MS 191 T	C1Q-S59	1132 120 0604	NLA	1129 007 1062	1129 007 1062
MS 192 T	C1Q-S103	1137 120 0600A	1137 120 0650	1129 007 1062	0000 007 1093
	C1Q-S134	1137 120 0600B	1137 120 0650	1129 007 1062	0000 007 1093
	C1Q-S257	1137 120 0650		1129 007 1062	0000 007 1093
	C1Q-S104	1137 120 0602A		1129 007 1062	0000 007 1093
MS 192 T-CE	C1Q-S135	1137 120 0602B	1137 120 0650	1129 007 1062	0000 007 1093
	C1Q-S258	1137 120 0651		1129 007 1062	0000 007 1093
MS 192 C-E	C1Q-S124	1137 120 0603	1137 120 0652	1129 007 1062	0000 007 1093
	C1Q-S259	1137 120 0652		1129 007 1062	0000 007 1093
MS 193 C-E	C1Q-S287	1137 120 0613		1137 007 1700	1130 007 1700
MS 193 T	C1Q-S285	1137 120 0606		1137 007 1700	

** For California

Carburetor Reference Charts & Kits

Chain Saws

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
020 T/ MS 200	C1Q-S16	1129 120 0601	1129 120 0650	1129 007 1060	0000 007 1081
	C1Q-S32	1129 120 0650		1129 007 1062	0000 007 1093
	C1Q-S61	1129 120 0651	1129 120 0653	1129 007 1062	0000 007 1093
	WT-326	1129 120 0606		1129 007 1061	0000 007 1075
	C1Q-S96	1129 120 0607		1129 007 1061	0000 007 1093
	C1Q-S126	1129 120 0653		1129 007 1061	0000 007 1093
	C1Q-S127	1129 120 0654		1129 007 1061	0000 007 1093
MS 201 T	C1Q-S188	1145 120 0600	1145 120 0652	1145 007 1700	7010 871 0227
	C1Q-S214	1145 120 0604	1145 120 0652	1145 007 1700	7010 871 0227
	C1Q-S248	1145 120 0650		1145 007 1700	7010 871 0227
	C1Q-S250	1145 120 0608	1145 120 0617	1145 007 1700	7010 871 0227
MS 201 C-E	C1Q-S189	1145 120 0602	1145 120 0653	1145 007 1700	7010 871 0227
	C1Q-S215	1145 120 0605	1145 120 0653	1145 007 1700	7010 871 0227
	C1Q-S249	1145 120 0651		1145 007 1700	7010 871 0227
	C1Q-S284	1145 120 0653		1145 007 1700	7010 871 0227
MS 201 C-EM	C1Q-273	1145 120 0613		1145 007 1700	
MS 201 C-M/T C-M	C1Q-S274	1145 120 0616		1145 007 1700	
021/MS 210	WT-215	1123 120 0605		1123 007 1061	0000 007 1072
	WT-286	1123 120 0615	NLA	1123 007 1061	0000 007 1072
	WT-503	1123 120 0614	1123 120 0605	1123 007 1061	0000 007 1072
	C1Q-S11	1123 120 0600	1123 120 0605	1123 007 1060	0000 007 1081
	C1Q-S77	1123 120 0604		1123 007 1060	0000 007 1040
	C1Q-S87	1123 120 0609	NLA	1123 007 1060	0000 007 1040
	C1Q-S90	1123 120 0619		1123 007 1060	0000 007 1040
	C1Q-S86	1123 120 0608	NLA	1123 007 1060	0000 007 1040
MS 211	C1Q-S119	1139 120 0601		4229 007 1060	7010 871 0229
	C1Q-S268	1139 120 0612		4229 007 1060	7010 871 0229
	C1Q-S240	1139 120 0617		4229 007 1060	7010 871 0229
MS 211 C-BE	C1Q-S269	1139 120 0613		4229 007 1060	7010 871 0229
	C1Q-S241	1139 120 0618		4229 007 1060	7010 871 0229
	C1Q-S120	1139 120 0602		4229 007 1060	7010 871 0229
023/MS 230	WT-215	1123 120 0605		1123 007 1061	0000 007 1072
	WT-283	1123 120 0610	NLA	1123 007 1061	0000 007 1072
	WT-286	1123 120 0615	NLA	1123 007 1061	0000 007 1072
	WT-360	1123 120 0611		1123 007 1061	0000 007 1072
	WT-396	1123 120 0613	NLA	1123 007 1061	0000 007 1072
	WT-498	1123 120 0616	NLA	1123 007 1061	0000 007 1073
	C1Q-S76	1123 120 0603		1123 007 1060	0000 007 1040
	C1Q-S92	1123 120 0620		1123 007 1060	0000 007 1040
	C1Q-S85	1123 120 0607	1123 120 0603	1123 007 1060	0000 007 1040
025/MS 250	WT-215	1123 120 0605		1123 007 1061	0000 007 1072
	WT-283	1123 120 0610	NLA	1123 007 1061	0000 007 1072
	WT-286	1123 120 0615	NLA	1123 007 1061	0000 007 1072
	WT-313	1123 120 0612	NLA	1123 007 1061	0000 007 1072
	C1Q-S11	1123 120 0600	1123 120 0605	1123 007 1060	0000 007 1081
	C1Q-S75	1123 120 0602		1123 007 1060	0000 007 1040
	C1Q-S76	1123 120 0603		1123 007 1060	0000 007 1040
	C1Q-S85	1123 120 0607	1123 120 0603	1123 007 1060	0000 007 1040
	C1Q-S242	1123 120 0607		1123 007 1060	0000 007 1040
MS 251	WTF-8	1143 120 0602		1143 007 1700	7010 871 0226
	C1Q-S233	1143 120 0605		1145 007 1700	
MS 251 C-BE	WTF-9	1143 120 0632	1143 120 0611	1143 007 1700	7010 871 0226
	C1Q-S234	1143 120 0635		1145 007 1700	
024	HU-54	1121 120 0600	1121 120 0611	1118 007 1065	0000 007 1052
	WT-426	1121 120 0650		1118 007 1066	0000 007 1072
	WT-194	1121 120 0606	1121 120 0611		0000 007 1072
	WT-22	1121 120 0601	1121 120 0611		0000 007 1065
MS 241 C-M	WTF-1	1143 120 0600		1143 007 1700	7010 871 0226

Chain Saws

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
026/MS 260	WT-403	1121 120 0610	1121 120 0602	1121 007 1062	0000 007 1072
	WT-426	1121 120 0650	1121 120 0611	1121 007 1062	0000 007 1072
	WT-427	1121 120 0612	NLA	1121 007 1062	0000 007 1072
	WT-590	1121 120 0616	NLA	1121 007 1062	
	WT-194	1121 120 0606	1121 120 0611		0000 007 1072
	WT-22	1121 120 0601	1121 120 0611		0000 007 1065
	WT-394	1121 120 0608	1121 120 0611		0000 007 1072
	WT-493	1121 120 0613	1121 120 0602	1121 007 1062	0000 007 1072
	WTE-1	1121 120 0602		1121 007 1063	7010 871 0232
MS 261/C-Q	C1Q-S178	1141 120 0600	1141 120 0606	1141 007 1006	7010 871 0202
	C1Q-S211	1141 120 0606		1141 007 1006	7010 871 0202
	C1Q-S252	1141 120 0616		1141 007 1006	7010 871 0202
MS 261C-BE	C1Q-S179	1141 120 0602	1141 120 0610	1141 007 1006	
MS 261 C-M/C-MQ	C1Q-S229	1141 120 0620		1141 007 1006	7010 871 0202
MS 270	HD-33	1133 120 0604		1128 007 1066	0000 007 1074
MS 271/291	C1Q-S178	1141 120 0600	1141 120 0606	1141 007 0601	7010 871 0202
	C1Q-S181	1141 120 0601	1141 120 0606	1141 007 0601	7010 871 0202
	C1Q-S211	1141 120 0606		1141 007 0601	7010 871 0202
	C1Q-S246	1141 120 0611		1141 007 0601	7010 871 0202
	C1Q-S252	1141 120 0616		1141 007 1006	7010 871 0202
MS 291 C-BEQ	C1Q-S182	1141 120 0603	1141 120 0610	1141 007 0601	7010 871 0202
	C1Q-S179	1141 120 0602	1141 120 0610	1141 007 1006	7010 871 0202
	C1Q-S212	1141 120 0610		1141 007 0601	7010 871 0202
	C1Q-S247	1141 120 0615		1141 007 0601	7010 871 0202
	C1Q-S253	1141 120 0617		1141 007 1006	7010 871 0202
028	WT-16	1118 120 0601	NLA	1120 007 1064	0000 007 1065
	HU-40	1118 120 0600	NLA	1118 007 1065	0000 007 1052
MS 280	HD-32	1133 120 0607		1128 007 1066	0000 007 1074
	HD-39	1133 120 0612		1128 007 1066	0000 007 1074
029/MS 290	HD-5	1127 120 0601	1127 120 0650	1127 007 1060	0000 007 1074
	HD-18	1127 120 0604		1127 007 1062	0000 007 1074
	HD-19	1127 120 0650		1127 007 1062	0000 007 1074
030/031	HU-3G	1113 120 0600	NLA		0000 007 1052
	WA-2	1113 120 0602	NLA		0000 007 1063
MS 310	HD-19	1127 120 0650		1127 007 1062	0000 007 1074
	HD-21	1127 120 0605		1127 007 1062	0000 007 1074
032	HU-51	1113 120 0604	NLA	1118 007 1060	0000 007 1052
	WA-49	1113 120 0603	NLA	1113 007 1060	0000 007 1063
034	C3A-S19	1125 120 0606	1125 120 0617	1128 007 1065	0000 007 1079
	C3A-S26	1125 120 0608	1125 120 0613		0000 007 1079
	C3A-S31	1125 120 0651		1128 007 1065	0000 007 1079
	C3A-S38	1125 120 0617		1128 007 1065	0000 007 1079
	C3A-S39	1125 120 0615		1125 007 1065	0000 007 1079
	HK-43	1125 120 0600	1125 120 0613	1119 007 1065	0000 007 1060
	C3A-S4	1125 120 0604	1125 120 0617		0000 007 1079
036/MS 360	C3A-S27	1125 120 0609		1128 007 1065	0000 007 1079
	C3A-S31	1125 120 0651		1128 007 1065	0000 007 1079
	C3A-S39	1125 120 0615		1128 007 1065	0000 007 1079
	C3A-S52	1125 120 0612	NLA	1128 007 1065	0000 007 1079
	C3A-S65	1125 120 0614		1128 007 1065	0000 007 1079
MS 361	HD-34	1135 120 0601		1128 007 1066	0000 007 1074
MS 362	WTE-8	1140 120 0600		1140 007 1004	7010 871 0232
	WTE-18	1140 120 0604		1140 007 1004	7010 871 0232
MS 362 C-M	C1Q-S235	1140 120 0604		1140 007 1700	7010 871 0254
MS 311/391	WTE-9	1140 120 0601		1140 007 1004	7010 871 0254
	WTE-16	1140 120 0603		1140 007 1004	7010 871 0254
038	Bing 48-A 101	1119 120 0650	1119 120 0605	1119 007 1062 (DG)	1119 007 1066 (RK)
	HK-42	1119 120 0601	1119 120 0605		0000 007 1060
	HK-29A	1119 120 0600	1119 120 0605		0000 007 1054
	HK-29B	1119 120 0600	1119 120 0605		0000 007 1060
	C3-S148	1119 120 0605			

Chain Saws

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
039/MS 390	HD-5	1127 120 0601	1127 120 0650	1127 007 1060	0000 007 1074
	HD-19	1127 120 0650		1127 007 1062	0000 007 1074
	HD-21	1127 120 0605		1127 007 1062	0000 007 1074
040	HS-29D	1110 120 0603			0000 007 1053
	HS-29D	1110 120 0603	NLA		0000 007 1053
041	HS-138B	1110 120 0607	NLA		0000 007 1059
	HS-77C	1110 120 0606	NLA		0000 007 1053
	HS-181C	1110 120 0610	NLA		0000 007 1053
	HS-138B	1110 120 0607	NLA		0000 007 1059
	HS-208B	1110 120 0611	NLA		0000 007 1053
042	WS-3	1117 120 0600	NLA		0000 007 1069
	WS-13	1117 120 0600	NLA		0000 007 1069
	WS-14	1117 120 0602	NLA		0000 007 1070
	WS-25	1117 120 0603	NLA		0000 007 1070
044/MS 440	HD-10	1128 120 0619	1128 120 0625	1128 007 1066	0000 007 1071
	HD-11	1128 120 0620	1128 120 0625	1128 007 1066	0000 007 1071
	HD-15	1128 120 0625		1128 007 1066	0000 007 1074
	HD-17	1128 120 0622		1128 007 1066	0000 007 1074
	C3M-S5E	1128 120 0601	1128 120 0625	1128 007 1065	0000 007 1080
	C3M-S5G	1128 120 0617	1128 120 0625	1128 007 1065	0000 007 1080
	C3M-S12B	1128 120 0615	NLA	1128 007 1065	0000 007 1080
	C3M-S12A	1128 120 0603	NLA	1128 007 1065	0000 007 1080
	C3M-S20	1128 120 0606	1128 120 0625	1128 007 1065	0000 007 1080
	C3M-S22	1128 120 0611	1128 120 0625	1128 007 1065	0000 007 1080
	C3M-S23	1128 120 0616	NLA	1128 007 1065	0000 007 1080
	C3M-S24	1128 120 0618	1128 120 0625	1127 007 1065	0000 007 1080
MS 441	HD-41	1138 120 0600		1128 007 1066	0000 007 1074
MS 441 C-M	HD-47	1138 120 0605	1138 120 0606	1128 007 1066	7010 871 0230
	HD-49	1138 120 0606		1128 007 1066	7010 871 0230
	HD-49	1138 120 0650		1128 007 1066	7010 871 0230
046/MS 460	HD-8	1128 120 0610	1128 120 0624		0000 007 1071
	HD-9	1128 120 0620	1128 120 0625		0000 007 1071
	HD-14	1128 120 0624		1128 007 1066	0000 007 1074
	HD-16	1128 120 0623		1128 007 1066	0000 007 1074
MS 461	HD-24	1128 120 0626	NLA	1128 007 1066	0000 007 1074
	HD-50	1128 120 0629		1128 007 1066	0000 007 1074
045	HS-118	1115 120 0600	NLA	1115 007 1060	0000 007 1058
048	WS-14	1117 120 0602	NLA		0000 007 1070
	WS-25	1117 120 0603	NLA		0000 007 1070
050	WS-11	1111 120 0603	NLA	1111 007 1060	0000 007 1070
	HS-60	1111 120 0601	NLA	1115 007 1060	0000 007 1059
051	WS-11	1111 120 0603	NLA	1111 007 1060	0000 007 1070
	HS-60	1111 120 0601	NLA	1115 007 1060	0000 007 1059
056	HS-118	1115 120 0600	NLA	1115 007 1060	0000 007 1058
	WJ-4	1115 120 0602	NLA	1122 007 1060	0000 007 1066
064	Bing 49-A	1122 120 0603	1122 120 0616		1122 007 1061
	WJ-10	1122 120 0602	1122 120 0621	1122 007 1060	0000 007 1066
	WJ-6	1122 120 0601	1122 120 0616	1122 007 1060	0000 007 1066
	WJ-48	1122 120 0613	1122 120 0621	1122 007 1060	0000 007 1066
066/MS 660/MS 650	WJ-65	1122 120 0616		1122 007 1060	0000 007 1066
	WJ-34	1122 120 0608		1122 007 1060	0000 007 1066
	WJ-35	1122 120 0607	1122 120 0621	1122 007 1060	0000 007 1066
	WJ-41	1122 120 0605	1122 120 0621		0000 007 1066
	WJ-42	1122 120 0609	1122 120 0621		0000 007 1066
	WJ-48	1122 120 0613	1122 120 0621	1122 007 1060	0000 007 1066
	WJ-51	1122 120 0614	1122 120 0621	1122 007 1060	0000 007 1066
	WJ-52	1122 120 0615	NLA	1122 007 1060	0000 007 1066
	WJ-65	1122 120 0616		1122 007 1060	0000 007 1066
	WJ-67	1122 120 0621		1122 007 1060	0000 007 1066
	WJ-69	1122 120 0618		1122 007 1060	0000 007 1066
	WJ-76	1122 120 0623	NLA	1122 007 1060	0000 007 1066
	WJ-86	1122 120 0606	NLA	1122 007 1060	0000 007 1066

Carburetor Reference Charts & Kits

Chain Saws

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
MS 661 C-M	WJ-134	1144 120 0610		1144 007 1700	7010 871 0256
070	LB-S9	1106 120 0650		1106 007 1061	0000 007 1084
	HL-244	1106 120 0607	1106 120 0650	1106 007 1060	0000 007 1055
	HL-324	1106 120 0611	1106 120 0650	1106 007 1060	0000 007 1055
075/076	WS-11	1111 120 0603		1111 007 1060	0000 007 1070
	HS-60	1111 120 0601	NLA	1115 007 1060	0000 007 1059
	WS-26	1111 120 0605		1111 007 1060	0000 007 1070
084	HT-1	1124 120 0600	NLA	1124 007 1060	0000 007 1059
	HT-2	1124 120 0602	NLA	1124 007 1060	0000 007 1059
	HT-3	1124 120 0603	NLA	1124 007 1060	0000 007 1059
	HT-5	1124 120 0605	NLA	1124 007 1060	0000 007 1059
	HT-7	1124 120 0607	NLA	1124 007 1060	0000 007 1059
088/MS 880	HT-11A	1124 120 0608	NLA	1124 007 1060	0000 007 1062
	HT-11B	1124 120 0608	NLA	1124 007 1060	0000 007 1061
	HT-12	1124 120 0609	1124 120 0613	1124 007 1060	0000 007 1061
	WG-12	1124 120 0611		1124 007 1061	
	WG-13	1124 120 0613		1124 007 1061	
090	LB-S9	1106 120 0650		1106 007 1061	0000 007 1084
	HL-244	1106 120 0607	1106 120 0650		0000 007 1056
	HL-324	1106 120 0611	1106 120 0650	1106 007 1060	0000 007 1055

Trimmers, Brushcutters, & Edgers

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
FC 44	WT 160	4130 120 0601		4130 007 1060	0000 007 1072
	WT-492	4130 120 0603	NLA	NLA	0000 007 1072
	WT-327	4130 120 0602	NLA	NLA	0000 007 1072
FC 55	C1Q-S44	4140 120 0600	4140 120 0610	4227 007 1060	0000 007 1085
	C1Q-S53	4140 120 0601	4140 120 0610	4227 007 1060	0000 007 1089
	C1Q-S58	4140 120 0610		4227 007 1060	0000 007 1091
	C1Q-S66	4140 120 0603	4140 120 0619	1129 007 1062	0000 007 1094
	C1Q-S71	4140 120 0606	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S97	4140 120 0612	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S186	4140 120 0619		4140 007 1060	7010 871 0222
FC 56	C1M-S145	4144 120 0600	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-S146**	4144 120 0601	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-207	4144 120 0603		4241 007 1002	7010 871 0205
	C1M-S208	4144 120 0604		4241 007 1002	7010 871 0205
FC 70	C1M-S145	4144 120 0600	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-S146**	4144 120 0601	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-207	4144 120 0603		4241 007 1002	7010 871 0205
	C1M-S208	4144 120 0604		4241 007 1002	7010 871 0205
FC 72	WT-227	4133 120 0600	4226 120 0600	4133 007 1060	0000 007 1073
	WT-329	4226 120 0601	4226 120 0600	4133 007 1060	0000 007 1073
FC 73	WYA-1		NLA	NLA	NLA
	WYA-2	4141 120 0600	NLA	NLA	NLA
	WYA-2D	4141 120 0601	NLA	NLA	NLA
FC 75	C1Q-S28	4137 120 0600		4227 007 1060	0000 007 1085
	C1Q-S41	4137 120 0602		4227 007 1060	0000 007 1085
	C1Q-S45	4137 120 0603	4137 120 0604	4227 007 1060	0000 007 1085
	C1Q-S56	4137 120 0604		4227 007 1060	0000 007 1089
	C1Q-S63	4137 120 0606	4137 120 0604	1129 007 1062	0000 007 1094
	CIQ-S69	4137 120 0608		4140 007 1060	0000 007 1039
	WT-447	4137 120 0601	4137 120 0604	4133 007 1060	0000 007 1073
FC 83	WYA-1		NLA	NLA	NLA
	WYA-2	4141 120 0600	NLA	NLA	NLA
	WYA-2D	4141 120 0601	NLA	NLA	NLA

** For California

Trimmers, Brushcutters, & Edgers

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
FC 85	C1Q-S45	4137 120 0603	4137 120 0604	4227 007 1060	0000 007 1085
	C1Q-S56	4137 120 0604		4227 007 1060	0000 007 1089
	C1Q-S63	4137 120 0606	4137 120 0604	1129 007 1062	0000 007 1094
	C1Q-S69	4137 120 0608		4140 007 1060	0000 007 1039
FC 90/95	C1Q-S110	4180 120 0604		4180 007 1060	0000 007 1041
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	0000 007 1041
	C1Q-S174	4180 120 0611		4180 007 1060	
FC 100	C1Q-S110	4180 120 0604		4180 007 1060	0000 007 1041
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	0000 007 1041
	C1Q-S174	4180 120 0611		4180 007 1060	
FC 110	C1Q-S72	4180 120 0600		4180 007 1060	0000 007 1092
	C1Q-S81	4180 120 0602	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S88	4180 120 0603	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S110 C	4180 120 0604		4180 007 1060	
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	
	C1Q-S174	4180 120 0611		4180 007 1060	
FS 08	HL-166	1108 120 0601		1106 007 1061	0000 007 1057
FS 20	HS-138B	1110 120 0609			0000 007 1059
FS 36	WT-160	4130 120 0601		4130 007 1060	0000 007 1072
	WT-327	4130 120 0602	NLA		0000 007 1072
	WT-492	4130 120 0603	NLA	4130 007 1060	0000 007 1072
FS 38	C1Q-S71	4140 120 0606	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S97	4140 120 0612	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S186B	4140 120 0619			0000 007 1039
	C1Q-S291	4140 120 0625		4228 007 1051	7010 871 0222
FS 38 (2-MIX)	C1Q-S216	4140 120 0621			7010 871 0247
FS 40 (OLD)	WT-160	4130 120 0601		4130 007 1060	0000 007 1072
	WT-327	4130 120 0602	NLA		0000 007 1072
	WT-492	4130 120 0603	NLA	4130 007 1060	0000 007 1072
FS 40	C1M-S145	4144 120 0600	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-S146**	4144 120 0601		4241 007 1002	7010 871 0205
	C1M-207	4144 120 0603		4241 007 1002	7010 871 0205
	C1M-S208	4144 120 0604		4241 007 1002	7010 871 0205
FS 44	WT-160	4130 120 0601		4130 007 1060	0000 007 1072
	WT-327	4130 120 0602	NLA		0000 007 1072
	WT-492	4130 120 0603	NLA	4130 007 1060	0000 007 1072
FS 45	C1Q-S44	4140 120 0600	4140 120 0610	4227 007 1060	0000 007 1085
	C1Q-S53	4140 120 0601	4140 120 0610	4227 007 1060	0000 007 1089
	C1Q-S58	4140 120 0610		4227 007 1060	0000 007 1091
	C1Q-S66	4140 120 0603	4140 120 0619	1129 007 1062	0000 007 1094
	C1Q-S71	4140 120 0606	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S97	4140 120 0612	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S153	4140 120 0616		4140 007 1060	7010 871 0222
	C1Q-S186	4140 120 0619		4140 007 1060	7010 871 0222
FS 46	C1Q-S44	4140 120 0600		4227 007 1060	0000 007 1085
	C1Q-S53	4140 120 0601		4227 007 1060	0000 007 1089
	C1Q-S58	4140 120 0610		4227 007 1060	0000 007 1091
	C1Q-S66	4140 120 0603		1129 007 1062	0000 007 1094
	C1Q-S71	4140 120 0606		4140 007 1060	0000 007 1039
	C1Q-S97	4140 120 0612		4140 007 1060	0000 007 1039
	C1Q-S153	4140 120 0616		4140 007 1060	7010 871 0222
	C1Q-S186	4140 120 0619		4140 007 1060	7010 871 0222
FS 48	WT-45	4126 120 0600	NLA		0000 007 1065
	WT-112	4132 120 0600		4117 007 1061	0000 007 1065
FS 50 (OLD)	WT-38	4117 120 0605			0000 007 1065
	Teikei	4118 120 0600	NLA	NLA	NLA
FS 50	C1M-S145	4144 120 0600	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-S146**	4144 120 0601	4144 120 0604	4241 007 1002	7010 871 0205
	C1M-207	4144 120 0603		4241 007 1002	7010 871 0205
	C1M-S208	4144 120 0604		4241 007 1002	7010 871 0205
FS 51	WT-38	4117 120 0605	NLA		0000 007 1065
	Teikei	4118 120 0600		NLA	NLA

** For California

Trimmers, Brushcutters, & Edgers

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
FS 52	WT-45	4126 120 0600	NLA		0000 007 1065
	WT-112	4132 120 0600		4117 007 1061	0000 007 1065
FS 55	C1Q-S44	4140 120 0600	4140 120 0610	4227 007 1060	0000 007 1085
	C1Q-S53	4140 120 0601	4140 120 0610	4227 007 1060	0000 007 1089
	C1Q-S58	4140 120 0610		4227 007 1060	0000 007 1091
	C1Q-S66	4140 120 0603	4140 120 0619	1129 007 1062	0000 007 1094
	C1Q-S71	4140 120 0606	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S97	4140 120 0612	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S153	4140 120 0616	4140 120 0619	4140 007 1060	7010 871 0222
	C1Q-S186	4140 120 0619		4140 007 1060	7010 871 0222
FS 56 (OLD)	WT-45	4126 120 0600	NLA		0000 007 1065
	WT-112	4132 120 0600		4117 007 1061	0000 007 1065
FS 56	C1M-S145	4144 120 0600	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-S146**	4144 120 0601	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-S207	4144 120 0603		4241 007 1002	7010 871 0205
	C1M-S208	4144 120 0604		4241 007 1002	7010 871 0205
FS 60	Teikei	4114 120 0610		NLA	NLA
FS 61	WT-38	4117 120 0605	NLA		0000 007 1065
	Teikei	4114 120 0610		NLA	NLA
FS 62	WT-112	4132 120 0600			0000 007 1065
	WT-45	4126 120 0600	NLA		0000 007 1065
FS 65	WT-38	4117 120 0605	NLA		0000 007 1065
	Teikei	4114 120 0610		NLA	NLA
FS 66	WT-112	4132 120 0600			0000 007 1065
	WT-45	4126 120 0600	NLA		0000 007 1065
FS 70	C1M-S145	4144 120 0600	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-S146**	4144 120 0601	4144 120 0605	4241 007 1002	7010 871 0205
	C1M-207	4144 120 0603		4241 007 1002	7010 871 0205
	C1M-S208	4144 120 0604		4241 007 1002	7010 871 0205
FS 72	WT-227	4133 120 0600	4226 120 0600	4133 007 1060	0000 007 1073
	WT-329	4226 120 0601	4226 120 0600	4133 007 1060	0000 007 1073
FS 74	WT-227	4133 120 0600	4226 120 0600	4133 007 1060	0000 007 1073
	WT-329	4226 120 0601	4226 120 0600	4133 007 1060	0000 007 1073
FS 75	WT 447	4137 120 0601	4137 120 0614	4133 007 1060	0000 007 1073
	C1Q-S28	4137 120 0600		4227 007 1060	0000 007 1085
	C1Q-S41	4137 120 0602		4227 007 1060	0000 007 1085
	C1Q-S45	4137 120 0603	4137 120 0604	4227 007 1060	0000 007 1085
	C1Q-S56	4137 120 0604		4227 007 1060	0000 007 1089
	C1Q-S63	4137 120 0606	4137 120 0614	1129 007 1062	0000 007 1094
	C1Q-S69	4137 120 0608	4137 120 0614	4140 007 1060	0000 007 1039
FS 76	WT-227	4133 120 0600	4226 120 0600	4133 007 1060	0000 007 1073
	WT-329	4226 120 0601	4226 120 0600	4133 007 1060	0000 007 1073
FS 80 (OLD)	Teikei	4112 120 0611	NLA	NLA	NLA
FS 80	WT 447	4137 120 0601	4137 120 0614	4133 007 1060	0000 007 1073
	C1Q-S28	4137 120 0600		4227 007 1060	0000 007 1085
	C1Q-S41	4137 120 0602		4227 007 1060	0000 007 1085
	C1Q-S45	4137 120 0603	4137 120 0604	4227 007 1060	0000 007 1085
	C1Q-S56	4137 120 0604		4227 007 1060	0000 007 1089
	C1Q-S63	4137 120 0606	4137 120 0614	1129 007 1062	0000 007 1094
	C1Q-S69	4137 120 0608	4137 120 0614	4140 007 1060	0000 007 1039
FS 81	WT-45	4126 120 0600	NLA		0000 007 1065
	WT-112	4132 120 0600		4117 007 1061	0000 007 1065
FS 83/83 T	WYA-1		NLA	NLA	NLA
	WYA-2	4141 120 0600	NLA	NLA	NLA
	WYA-2D	4141 120 0601	NLA	NLA	NLA

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Trimmers, Brushcutters, & Edgers

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
FS 85	WT-447	4137 120 0601	4137 120 0614	4133 007 1060	0000 007 1073
	C1Q-S28	4137 120 0600		4227 007 1060	0000 007 1085
	C1Q-S41	4137 120 0602		4227 007 1060	0000 007 1085
	C1Q-S45	4137 120 0603	4137 120 0604	4227 007 1060	0000 007 1085
	C1Q-S56	4137 120 0604		4227 007 1060	0000 007 1089
	C1Q-S63	4137 120 0606	4137 120 0614	1129 007 1062	0000 007 1094
	C1Q-S69	4137 120 0608	4137 120 0614	4140 007 1060	0000 007 1039
FS 86	WT-45	4126 120 0600	NLA		0000 007 1065
	WT-112	4132 120 0600		4117 007 1061	0000 007 1065
FS 88	WT-45	4126 120 0610	NLA	4117 007 1061	0000 007 1065
	WT-367	4126 120 0611		4117 007 1061	0000 007 1065
FS 90 (OLD)	WT-38	4117 120 0605	NLA	NLA	0000 007 1065
	Teikei	4117 120 0600	NLA	NLA	NLA
FS 90	C1Q-S110	4180 120 0604		4180 007 1060	
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	
	C1Q-S174	4180 120 0611		4180 007 1060	
FS 94 R	RC2-S243	4149 120 0600		4149 007 1700	7010 871 0246
FS 96	WT-38	4117 120 0605	NLA	NLA	0000 007 1065
FS 100	C1Q-S72	4180 120 0600		4180 007 1060	0000 007 1041
	C1Q-S81	4180 120 0602	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S88	4180 120 0603	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	
	C1Q-S174	4180 120 0611		4180 007 1060	
FS/FR 106	WT-45	4126 120 0610	NLA	NLA	0000 007 1065
	WT-112	4132 120 0600		NLA	0000 007 1065
	C1Q-SK5	4135 120 0600	4135 120 0602	4134 007 1060	0000 007 1078
FS 108	C1Q-SK7	4135 120 0601	4135 120 0602	4132 007 1061	0000 007 1078
FS 110	C1Q-S72	4180 120 0600		4180 007 1060	0000 007 1041
	C1Q-S81	4180 120 0602	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S88	4180 120 0603	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	
	C1Q-S174	4180 120 0611		4180 007 1060	
FS 120	C1Q-S35	4134 120 0600	4134 120 0651	4134 007 1060	0000 007 1078
	C1Q-S36	4134 120 0601	4134 120 0651	4134 004 1060	0000 007 1078
	C1Q-S51	4134 120 0651		4134 007 1060	0000 007 1078
FS 130	C1Q-S98	4180 120 0601		4180 007 1061	
	C1Q-S130	4180 120 0607	4180 120 0610	4180 007 1061	
	C1Q-S176	4180 120 0610		4180 007 1061	
FS 150	HDC-17	1116 120 0600	NLA	NLA	0000 007 1067
FS 160	C1S-S2	4119 120 0601	4135 120 0600	1120 007 1061	0000 007 1082
	C1S-S3	4119 120 0602		4119 007 1061	0000 007 1083
FS 180	C1S-S2	4119 120 0601	4135 120 0600	1120 007 1061	0000 007 1083
	C1S-S3	4119 120 0602		4119 007 1061	0000 007 1083
FS 200 (1114)	HU-7A	1114 120 0600			0000 007 1052
FS 200	C1Q-S35	4134 120 0600		4134 007 1060	0000 007 1078
	C1Q-S36	4134 120 0601		4134 007 1060	0000 007 1078
	C1Q-S51	4134 120 0651		4134 007 1060	0000 007 1078
FS 220	WT-51	4119 120 0601			0000 007 1065
	WT-70	4119 120 0604			0000 007 1065
	C1S-S2	4119 120 0601	4135 120 0600	1120 007 1061	0000 007 1083
	C1S-S3	4119 120 0602		4119 007 1060	0000 007 1083
FS 240	WTF-10	4147 120 0605		4147 007 1700	7010 871 0226
FS 250	C1Q-S35	4134 120 0600	NLA	4134 007 1060	0000 007 1078
	C1Q-S36	4134 120 0601	4134 120 0651	4134 007 1060	0000 007 1078
	C1Q-S51	4134 120 0651		4134 007 1060	0000 007 1078
FS 280	C1S-S2	4119 120 0601		1120 007 1061	0000 007 1083
	C1S-S3	4119 120 0602		4119 007 1060	0000 007 1083
	WT-223	4119 120 0601	NLA	NLA	0000 007 1072

Carburetor Reference Charts & Kits

Trimmers, Brushcutters, & Edgers

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
FS 310	C1Q-S98	4180 120 0601		4180 007 1061	
	C1Q-S130	4180 120 0607	4180 120 0610	4180 007 1061	
	C1Q-S133	4180 120 0606	4180 120 0613	4180 007 1061	
	C1Q-S176	4180 120 0613		4180 007 1061	
FS 350	C1Q-S35	4134 120 0600	NLA	4134 007 1060	0000 007 1078
	C1Q-S36	4134 120 0601	4134 120 0651	4134 007 1060	0000 007 1078
	C1Q-S51	4134 120 0651		4134 007 1060	0000 007 1078
FS 360 (OLD)	HD-1	4116 120 0600	4116 120 0601		0000 007 1071
	HD-3	4116 120 0601		4116 007 1061	0000 007 1071
FS 360 C-E	WTF-5	4147 120 0600		4147 007 1700	7010 871 0226
	WTF-10	4147 120 0605		4147 007 1700	7010 871 0226
FS 410 (OLD)	HS-138	1110 120 0609	NLA		0000 007 1059
FS 410	WTF-6	4147 120 0600		4147 007 1700	
FS 420	HD-3	4116 120 0601	4116 120 0601	4116 007 1061	0000 007 1071
FS 400	C1Q-S33	4128 120 0601		4134 007 1060	0000 007 1078
	C1Q-S34	4128 120 0651		4134 007 1060	0000 007 1078
	C1Q-S94	4128 120 0603		1129 007 1062	0000 007 1094
FS 450	C1Q-S33	4128 120 0601	4128 120 0601	4134 007 1060	0000 007 1078
	C1Q-S34	4128 120 0651		4134 007 1060	0000 007 1078
	C1Q-S94	4128 120 0603	4128 120 0607	1129 007 1062	0000 007 1094
FS 460 C-EM	WTF-7	4147 120 0603		4147 007 1700	7010 871 0226
	WTF-12	4147 120 0608		4147 007 1700	7010 871 0226
FS 550	HD-22	4116 120 0603		4116 007 1061	0000 007 1071
	HD-23	4116 120 0602		4116 007 1061	0000 007 1071
	HD-31	4116 120 0606		4116 007 1061	0000 007 1071
FS 560 C-EM	HDA-302	4148 120 0601		4148 007 1700	7010 871 0233
	HDA-311	4148 120 0602		4148 007 1700	7010 871 0233

KombiSystem Units

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
KM 55	C1Q-S71	4140 120 0606	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S97	4140 120 0612	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S66	4137 120 0603	4140 120 0619	1129 007 1062	0000 007 1094
	C1Q-S153	4140 120 0616	4140 120 0619	4140 007 1060	7010 871 0222
	C1Q-S186	4140 120 0619		4140 007 1060	7010 871 0222
KM 56	C1M-S145	4144 120 0600	4144 120 0603	4241 007 1002	7010 871 0205
	C1M-S146**	4144 120 0601		4241 007 1002	7010 871 0205
KM 85	C1Q-S63	4137 120 0606	4137 120 0614	1129 007 1060	0000 007 1094
	C1Q-S69	4137 120 0608	4137 120 0614	4140 007 1060	0000 007 1039
	C1Q-S157	4137 120 0614		4140 007 1060	0000 007 1039
KM 90	C1Q-S110	4180 120 0604		4180 007 1060	
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	
	C1Q-S174	4180 120 0611		4180 007 1060	
KM 94 R	RC2-S243B	4149 120 0600		4149 007 1700	
KM 110	C1Q-S72	4180 120 0600		4180 007 1060	0000 007 1041
	C1Q-S81	4180 120 0602	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S88	4180 120 0603	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S110	4180 120 0604		4180 007 1060	
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	
	C1Q-S174	4180 120 0611		4180 007 1060	
KM 130	C1Q-S98	4180 120 0601		4180 007 1061	
	C1Q-S130	4180 120 0607	4180 120 0610	4180 007 1061	
	C1Q-S176	4180 120 0610		4180 007 1061	

YARD BOSS®

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
MM 55	C1Q-S79	4140 120 0607		4140 007 1060	0000 007 1039
	C1Q-S93	4140 120 0609	4601 120 0600		0000 007 1039

** For California

Carburetor Reference Charts & Kits

Blowers & Sprayers

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
BG 45	C1Q-S48	4229 120 0601	NLA	1129 007 1062	0000 007 1088
	C1Q-S73	4229 120 0605	4229 120 0607	4229 007 1060	0000 007 1039
	C1Q-S112	4229 120 0607		4229 007 1060	
BG 46	C1Q-S73	4229 120 0605	4229 120 0607	4229 007 1060	0000 007 1039
	C1Q-S112	4229 120 0607		4229 007 1060	
BG 50	C1Q-100332B	4229 120 0608			
BG 55/65/85	C1Q-S50	4229 120 0600	4229 120 0604	1129 007 1062	0000 007 1088
	C1Q-S55	4229 120 0604		1129 007 1062	0000 007 1091
	C1Q-S64	4229 120 0603	4229 120 0606	1129 007 1062	0000 007 1091
	C1Q-S68	4229 120 0606		4229 007 1060	
BG 60	WT-38	4117 120 0605		NLA	0000 007 1065
	Teikei	4210 120 0601	NLA	NLA	NLA
BG 61	WT-38	4117 120 0605	NLA	NLA	0000 007 1065
SH 55/85	C1Q-S50	4229 120 0600	4229 120 0604	1129 007 1062	0000 007 1088
	C1Q-S55	4229 120 0604		1129 007 1062	0000 007 1091
	C1Q-S64	4229 120 0603	4229 120 0606	1129 007 1062	0000 007 1091
	C1Q-S68	4229 120 0606		4229 007 1060	
BG 72	WT-253	4227 120 0600	NLA		0000 007 1073
BG 72 (CA)	WT-330	4227 120 0601	NLA		0000 007 1073
BG 75	C1Q-S30	4227 120 0602	4227 120 0604	4227 007 1060	0000 007 1085
	C1Q-S47	4227 120 0604		4227 007 1060	0000 007 1089
	WT-413	4227 120 0603	4227 120 0604	4133 007 1060	0000 007 1073
BG/SH 56	C1M-S142	4241 120 0601	4241 120 0608	4241 007 1002	7010 871 0205
BG 66	C1M-S144	4241 120 0602	4241 120 0609	4241 007 1002	7010 871 0206
	C1M-S205	4241 120 0609		4241 007 1002	7010 871 0206
BG/SH 86	C1M-S141	4241 120 0600	4241 120 0607	4241 007 1002	7010 871 0205
	C1M-S203	4241 120 0607		4241 007 1002	7010 871 0205
	C1M-S228	4241 120 0606		4241 007 1002	7010 871 0205
BR 106	C1Q-SK6	4222 120 0600	NLA	4132 007 1061	0000 007 1078
BR 200	C1M-S201	4241 120 0604	4241 120 0611	4241 007 1002	7010 871 0205
	C1M-S205	4241 120 0609		4241 007 1002	7010 871 0206
	C1M-S206	4241 120 0610	NLA	4241 007 1002	7010 871 0205
	C1M-S219	4241 120 0611		4241 007 1002	7010 871 0205
BR 320/400	HD-2	4203 120 0600	4203 120 0601	4116 007 1061	0000 007 1071
	HD-4	4203 120 0601		4116 007 1061	0000 007 1071
	HD-7	4203 120 0602	NLA	4116 007 1061	0000 007 1074
	HD-13	4203 120 0603		4116 007 1061	0000 007 1071
BR 320 L	WT-489	4203 120 0607	NLA	4203 007 1061	0000 007 1073
	WT-230	4203 120 0605	NLA	4203 007 1061	0000 007 1073
	WT-331	4203 120 0606	NLA	4116 007 1061	0000 007 1073
BR 340/420	HD-28	4203 120 0608	4203 120 0610	4116 007 1061	0000 007 1071
	HD-29	4203 120 0604	4203 120 0610	4116 007 1061	0000 007 1071
BR 340 L	WT-580	4203 120 0609	NLA	4203 007 1061	0000 007 1072
BR 350	C1Q-S199	4244 120 0601		4228 007 1051	7010 871 0222
	C1Q-S209	4244 120 0603		4228 007 1051	7010 871 0222
BR 380	HD-45	4203 120 0610		4203 007 1061	0000 007 1071
	HD-280	4203 120 0608	4203 120 0610		0000 007 1071
BR 430	C1Q-S165	4244 120 0602		4228 007 1051	7010 871 0222
	C1Q-S209	4244 120 0603		4228 007 1051	7010 871 0222
	C1Q-S220	4244 120 0606		4228 007 1051	7010 871 0222
BR 450, 450 C-EF	CIQ-S209C	4244 120 0603		4228 007 1051	
BR 500	C1Q-S99	4282 120 0600	4282 120 0606	4180 007 1061	
	C1Q-S99A	4282 120 0603		4180 007 1061	
	C1Q-S183	4282 120 0606		4180 007 1061	
BR 550	C1Q-S101	4282 120 0602	4282 120 0608	4180 007 1061	
	C1Q-S101A	4282 120 0605		4180 007 1061	
	C1Q-S185	4282 120 0608		4180 007 1061	
BR 600	C1Q-S100	4282 120 0601	4282 120 0607	4180 007 1061	
	C1Q-S100A	4282 120 0605		4180 007 1061	
	C1Q-S184	4282 120 0607		4180 007 1061	
SR 200	C1M-S244	4241 120 0605		4241 007 1002	7010 871 0205
SR 320/400	HD-2	4203 120 0600		4116 007 1061	0000 007 1071
	HD-7	4203 120 0602		4116 007 1061	0000 007 1074
	HD-13	4203 120 0603		4116 007 1061	0000 007 1071
	HD-28	4203 120 0608		4116 007 1061	0000 007 1071
SR 450	C1Q-S165	4244 120 0602	4244 120 0603	4228 007 1051	7010 871 0222
	C1Q-S209	4244 120 0603		4228 007 1051	7010 871 0222

Hedge Trimmers

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
FH 75	C1Q-S28	4137 120 0600		4227 007 1060	0000 007 1085
	C1Q-S41	4137 120 0602		4227 007 1060	0000 007 1089
	C1Q-S45	4137 120 0603		4227 007 1060	0000 007 1085
	C1Q-S56	4137 120 0604		4227 007 1060	0000 007 1089
	C1Q-S63	4137 120 0606		1129 007 1062	0000 007 1094
	C1Q-S69	4137 120 0608		4140 007 1060	0000 007 1039
	C1Q-S157	4137 120 0614		4140 007 1060	0000 007 1039
HL 45	C1Q-S44	4140 120 0600	4140 120 0610	4227 007 1060	0000 007 1085
	C1Q-S53	4140 120 0601	4140 120 0610	4227 007 1060	0000 007 1089
	C1Q-S58	4140 120 0610		4227 007 1060	0000 007 1091
	C1Q-S66	4140 120 0603	4140 120 0619	1129 007 1062	0000 007 1094
	C1Q-S71	4140 120 0606	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S97	4140 120 0612	4140 120 0619	4140 007 1060	0000 007 1039
	C1Q-S153	4140 120 0616	4140 120 0619	4140 007 1060	7010 871 0222
	C1Q-S186	4140 120 0619		4140 007 1060	7010 871 0222
	C1Q-S291	4140 120 0625		4228 007 1051	7010 871 0222
HL 73/73 K	WYA-1		NLA	NLA	NLA
	WYA-2	4141 120 0600	NLA	NLA	NLA
	WYA-2D	4141 120 0601	NLA	NLA	NLA
HL 75	C1Q-S28	4137 120 0600		4227 007 1060	0000 007 1085
	C1Q-S41	4137 120 0602		4227 007 1060	0000 007 1089
	C1Q-S45	4137 120 0603	4137 120 0604	4227 007 1060	0000 007 1085
	C1Q-S56	4137 120 0604		4227 007 1060	0000 007 1089
	C1Q-S63	4137 120 0606	4137 120 0614	1129 007 1062	0000 007 1094
	C1Q-S69	4137 120 0608		4140 007 1060	0000 007 1039
	C1Q-S157	4137 120 0614		4140 007 1060	0000 007 1039
HL 90	C1Q-S110	4180 120 0604		4180 007 1060	
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	
	C1Q-S174	4180 120 0611		4180 007 1060	
HL 100	C1Q-S72	4180 120 0600		4180 007 1060	
	C1Q-S88	4180 120 0603	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S110	4180 120 0604		4180 007 1060	
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	
	C1Q-S174	4180 120 0611		4180 007 1060	
HS 45	C1Q-S49	4228 120 0600	4228 120 0601	1129 007 1062	0000 007 1088
	C1Q-S54	4228 120 0601		1129 007 1062	0000 007 1094
	C1Q-S67	4228 120 0603	4228 120 0608	1129 007 1062	
	C1Q-S70	4228 120 0606	4228 120 0608	4228 007 1051	0000 007 1039
	C1Q-S169	4228 120 0608		4228 007 1051	7010 871 0222
HS 46/56	C1T-S195E	4242 120 0600		4242 007 1700	7010 871 0231
	C1T-S195F	4242 120 0600		4242 007 1701	7010 871 0385
HS 60	WT-189	4211 120 0602		4211 007 1060	0000 007 1072
HS 61	WT-189	4211 120 0602		4211 007 1060	0000 007 1072
HS 72/74/76	WT-264	4226 120 0600		4133 007 1060	0000 007 1073
	WT-329	4226 120 0601	4226 120 0600	4133 007 1060	0000 007 1073
HS 75/80/85	C1Q-S29	4226 120 0602		4227 007 1060	0000 007 1085
	C1Q-S42	4226 120 0604		4227 007 1060	0000 007 1089
	WT-412	4226 120 0603		4133 007 1060	0000 007 1073
HS 81/ 86	C1Q-S105	4237 120 0601		4229 007 1060	
	C1Q-S115	4237 120 0604	4237 120 0618	4229 007 1060	
	C1Q-S196	4237 120 0609	4237 120 0618	4229 007 1060	
	C1Q-S218	4237 120 0612	4237 120 0618	4229 007 1060	
HS 81 T C-E	C1Q-S140	4237 120 0606		4229 007 1060	
	C1Q-S198	4237 120 0611		4229 007 1060	
HS 82/87	C1Q-S292	4237 120 0615		4229 007 1060	

Carburetor Reference Charts & Kits

Pole Pruners & Misc. Power Tools

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
HT 56	C1M-S145	4144 120 0600	4144 120 0603	4241 007 1002	7010 871 0205
HT 73	WYA-1		NLA	NLA	NLA
	WYA-2	4141 120 0600	NLA	NLA	NLA
	WYA-2D	4141 120 0601	NLA	NLA	NLA
HT 70/75	C1Q-S28	4137 120 0600		4227 007 1060	0000 007 1085
	C1Q-S41	4137 120 0602		4227 007 1060	0000 007 1089
	C1Q-S45	4137 120 0603	4137 120 0604	4227 007 1060	0000 007 1085
	C1Q-S56	4137 120 0604		4227 007 1060	0000 007 1089
	C1Q-S63	4137 120 0606	4137 120 0614	1129 007 1062	0000 007 1094
	C1Q-S69	4137 120 0608	4137 120 0614	4140 007 1060	0000 007 1039
	C1Q-S157	4137 120 0614		4140 007 1060	0000 007 1039
	C1Q-S66	4140 120 0603		1129 007 1062	0000 007 1094
HT 100/101	C1Q-S81/88	4180 120 0603	4180 120 0604	4180 007 1060	0000 007 1041
	C1Q-S110	4180 120 0604		4180 007 1060	
	C1Q-S131	4180 120 0608	4180 120 0611	4180 007 1060	
	C1Q-S174	4180 120 0611		4180 007 1060	
HT 130/131	C1Q-S98	4180 120 0601		4180 007 1061	
	C1Q-S130	4180 120 0607	4180 120 0610	4180 007 1061	
	C1Q-S176	4180 120 0610		4180 007 1061	
KW 85	C1Q-S45	4137 120 0603	4137 120 0604	4227 007 1060	0000 007 1085
	C1Q-S56	4137 120 0604		4227 007 1060	0000 007 1089
	C1Q-S63	4137 106 0606	4137 120 0614	1129 007 1062	0000 007 1094
	C1Q-S69	4137 120 0608	4137 120 0614	4140 007 1060	0000 007 1039
	C1Q-S157	4137 120 0614		4140 007 1060	0000 007 1039

Cutquiks®

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
TS 08	HL-166	1108 120 0601	4201 120 0611	1106 007 1061	0000 007 1057
	HL-292	1108 120 0604		1106 007 1061	0000 007 1057
TS 50	HS-212	4205 120 0600		1115 007 1060	0000 007 1059
TS 200	HU-7A	1114 120 0600			0000 007 1052
TS 350	HL-292	1108 120 0604	4201 120 0611	1106 007 1061	0000 007 1057
	HL-371	4201 120 0610		4201 007 1060	0000 007 1057
	HL-372	4201 120 0611		4201 007 1060	0000 007 1057
TS 350 AV	HL-327	4201 120 0601		4201 007 1060	0000 007 1057
	LA-S168	4308 120 0600		4201 007 1060	0000 007 1084
TS 360	HL-327	4201 120 0601	4308 120 0600	4201 007 1060	0000 007 1057
	LA-S168	4308 120 0600		4201 007 1060	0000 007 1084
TS 400	HS-274	4223 120 0600	4223 120 0652	1124 007 1060	0000 007 1061
	HS-279	4223 120 0650	4223 120 0652	1124 007 1060	0000 007 1061
	HS-275	4221 120 0651		1124 120 1060	0000 007 1061
	WJ-108	4223 120 0652		1122 007 1060	0000 007 1066
TS 410/420	C1Q-S118	4238 120 0600		4238 007 1060	4238 007 1061
TS 460	HS-276	4221 120 0650	4221 120 0651	1124 007 1060	0000 007 1061
	HS-212	4205 120 0600		1115 007 1060	0000 007 1059
TS 510	HS-277	4205 120 0601		1115 007 1060	0000 007 1062
	HS-280	4205 120 0602		1115 007 1060	0000 007 1062
	HS-281	4205 120 0603		1115 007 1060	0000 007 1062
	HS-212	4205 120 0600		1115 007 1060	0000 007 1059
TS 700/800	HS-314	4224 120 0600	4224 120 0650	4224 007 1008	4224 007 1019
	WJ-114	4224 120 0601		1122 007 1060	0000 007 1066
TS 760	HS-212	4205 120 0600		1115 007 1060	0000 007 1059
	HS-277	4205 120 0601		1115 007 1060	0000 007 1059
	HS-280	4205 120 0602		1115 007 1060	0000 007 1062
	HS-281	4205 120 0603		1115 007 1060	0000 007 1062

Carburetor Reference Charts & Kits

Augers & Misc. Industrial

Model #	Carburetor Model	Carburetor Number	Substitute	IPL Repair Kit	Vendor Repair Kit
BT 45	C1Q-S74/A/B	4314 120 0600	4314 120 0601	4314 007 1051	
	C1Q-S74 D/G	4314 120 0601		4314 007 1051	
BT 106	SK5	4135 120 0602		NLA	NLA
	C1Q-SK5	4135 120 0600	4135 120 0602	4134 007 1060	0000 007 1078
BT 120	C1Q-S36	4134 120 0601	4134 120 0651	4134 007 1060	0000 007 1078
	C1Q-S51	4134 120 0651		4134 007 1060	0000 007 1078
	C1Q-S82	4134 120 0603	NLA	1129 007 1062	0000 007 1088
	C1Q-S161	4134 120 0652		4128 007 1060	7010 871 0228
BT 121	C1Q-S82	4134 120 0603	NLA	1129 007 1062	0000 007 1088
	C1Q-S161	4134 120 0652		4128 007 1060	7010 871 0228
BT 130	C1Q-S176	4180 120 0610		4180 007 1061	
BT 360	HL-327	4201 120 0601	4308 120 0600	4201 007 1060	0000 007 1057
	LA-S168	4308 120 0600		4201 007 1060	0000 007 1084
GS 461	HD-50	1128 120 0629		1128 007 1066	0000 007 1074
P840	HS 268A	4702 120 0606	NLA	NLA	NLA

Carburetor Jets

Jet Size MM	Jet Part Number
.26	4229 121 5604
.32	4180 121 5600
.34	4137 121 5603
.35	4229 121 5602
.36	4229 121 5601
.37	4229 121 5603
.38	4237 121 5600
.39	4228 121 5602
.40	1132 121 5640
.41	4137 121 5600
.42	1123 121 5642
.42	4137 121 5601
.43	4228 121 5600
.44	1123 121 5653
.44	1130 121 5601
.45	1130 121 5604
.46	1123 121 5631
.50	1129 121 5600
.52	1121 121 5602
.52	1132 121 5604
.54	1130 121 5600
.55	1123 121 5625
.56	1120 121 5600
.58	1127 121 5602
.60	1122 121 5608
.62	1122 121 5603
.65	1122 121 5606

Short Blocks

Part Number	Series/Unit
4180 020 0200	FS 110/100 RX
4180 020 0201	FS 130
4180 020 0202	FS 90
4282 020 0200	BR 500/550/600

2-Stroke Failure Analysis

In the combustion chamber, lean is lean; it does not matter if air entered the engine somewhere other than the carb, leaning out the mixture, or if the fuel flow was restricted, leaning out the mixture. If the engine does not have a rev-limiter, lean running will cause over-revving. A saw with a lot of run time will get a polished, buffed appearance on the bottom of the intake skirt, but over-revving will advance this buffing effect considerably, as the picture on the right indicates.

Fuel provides piston cooling, so a lean mixture allows the piston to overheat. However, damage is usually worse on the exhaust side.

Also be aware that a new engine with little buildup of residual oil in the porosity of the piston and cylinder wall will score differently than an engine with a lot of run time.

2-Stroke Failure Analysis

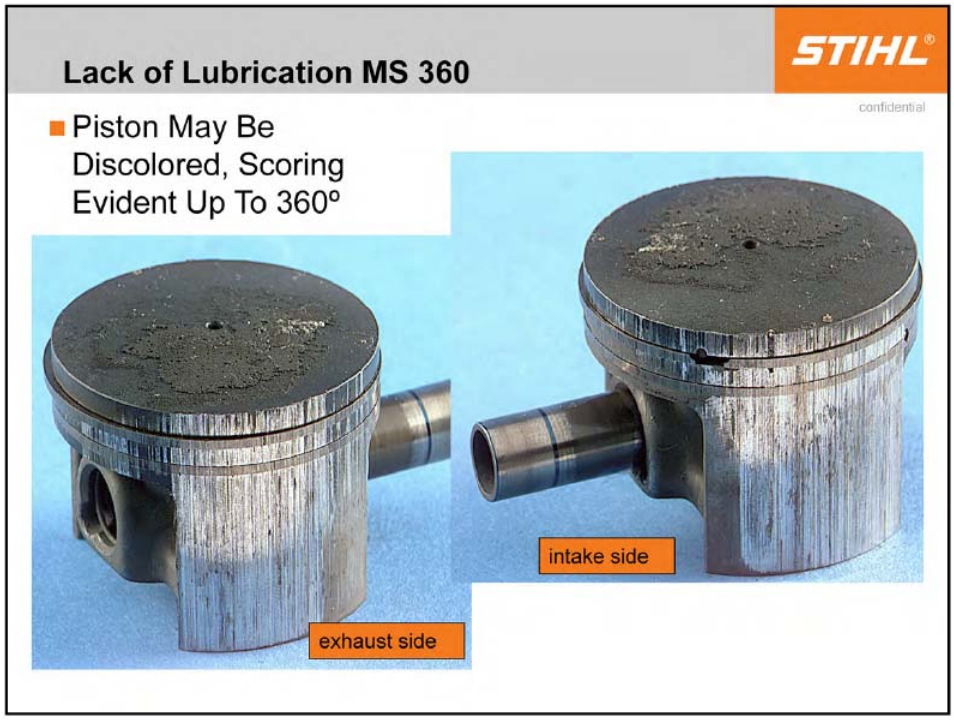
This is sometimes referred to as “4 point scoring”, implying that the piston swells at the four corners where the support webs for the skirt are located.

On a saw, the intake side of the piston nearest the flywheel may not be scored, because it is getting the cooling air first.

Typically, the exhaust side of the piston will be scored all the way across, with the intake side showing damage mainly at the skirt webs.

The wrist pin will usually be blue, and the underside of the piston may be black with burned oil residue.

2-Stroke Failure Analysis



Typical damage from lack of lubrication will be up to 360° scoring around the piston. It may be due to no oil, the wrong type of oil, or not enough oil in the fuel. Old fuel may also contribute to this.

Winter fuels or fuel with high levels of alcohol may indicate failures similar to those observed from lack of lubrication.

If a STIHL Engine Check is done on the engine and no lean faults or overheat indicators are found, then the piston is removed and has scoring on both sides or even all the way around, it is most likely a lack of lubrication related failure. The only way to be sure is to see what faults are present, and if none are found then by process of elimination, it is most likely lack of lubrication.

2-Stroke Failure Analysis

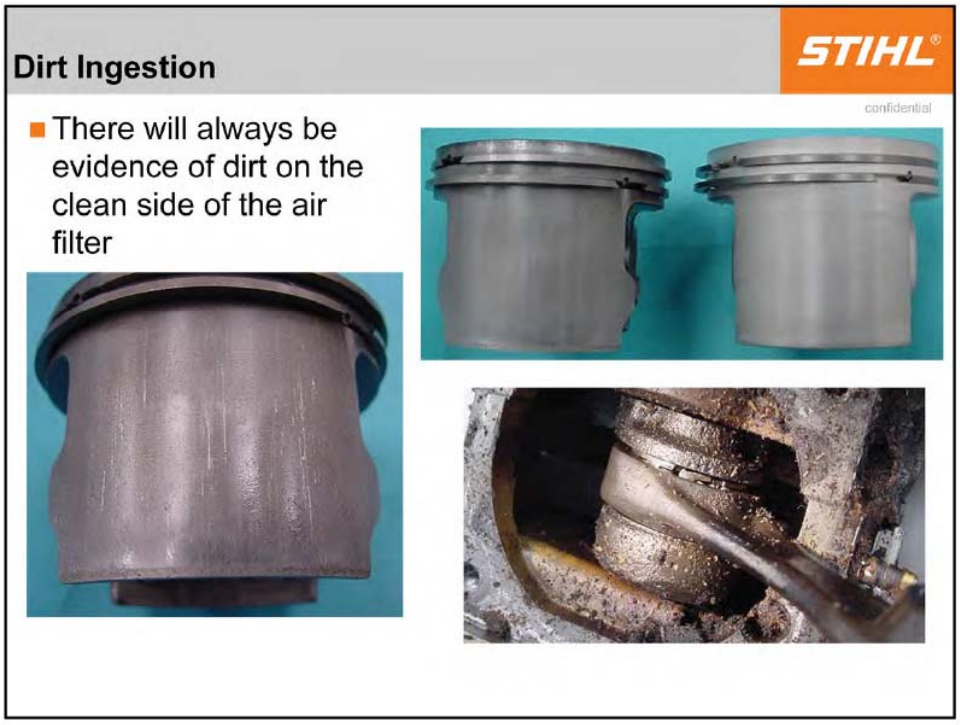
This engine had no residual oil soaked into the metal surfaces, so it did not last very long.

This is a stratified scavenge engine design. Notice that the lack of lubrication caused scoring on the intake and both sides of the piston first and led to a loss of compression when the rings were pinched by the material wiping across the lands.

Regardless of the engine design, no oil leads to piston contact with the cylinder wall and scoring and metal transfer.

The crankshaft bearings are fine, and all it would take to repair the unit is a new piston and cylinder assembly.

2-Stroke Failure Analysis



Notice the sandblasted, dull look of the intake side of the piston on the left, compared to the one on the right. In the close-up, you can see the scratch marks and tell that the machine marks are worn off. An engine with long term dirt ingestion may continue to run until it has so little power that the operator will complain about the performance. The dirt may cause the lower rod bearing to fail since that is the first place it hits as it comes into the crankcase.

There is usually plenty of evidence to confirm an engine that has ingested dirt. The air filter may be missing or damaged. There may be evidence of dirt or grit on the clean side of the filter or on the choke plate of the carb.

A worn piston eventually leads to lean running, as the intake side of the piston acts as the valve that closes the intake port. This is a close tolerance, and if the skirt is worn down from abrasive ingestion it no longer seals well. The engine will have excessive spit-back through the carb. The air filter may get saturated with fuel in some situations.

Technical Information

12.2015

New Backpack Blowers STIHL BR 450, BR 450 C-EF – Series 4244

Overview

Distinguishing features:

– New fan housing and fanwheel
– New blower tubes with stepless length adjustment
– New tooless adjustable control handle with stepless cruise control
– Supplementary equipment of BR 450 C-EF: electric start

1. Product description

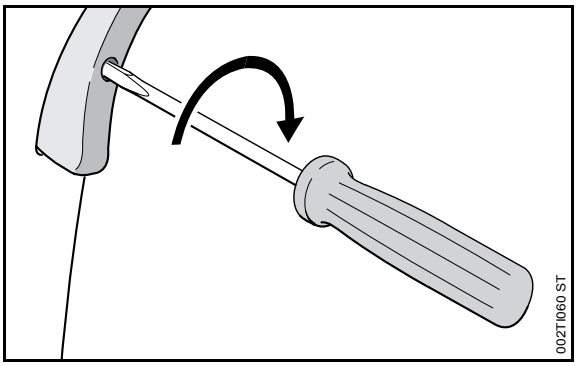
The new backpack blowers STIHL BR 450 und BR 450 C-EF broaden the product range of blowers for professional use.

Engine and carrying system were adopted from the blowers STIHL BR 350 und BR 430.

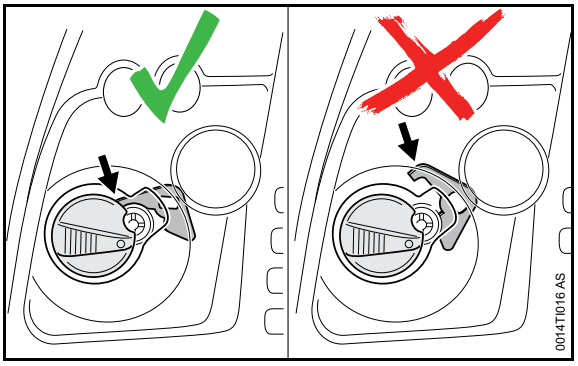
2. Repairs and service

2.1 Setting the carburetor (pre-checks)

- Check air filter and replace it if necessary.
- Check the spark arresting screen and clean or replace it if necessary.
- Check setting of throttle cable:



- Set throttle lever to full throttle position.
- Turn the screw in the throttle lever until initial resistance is encountered. Then an additional half turn.



In full throttle position, the lever of the throttle shaft (arrow) must contact the carburetor housing.

2.1.1 Standard setting with limiter caps:

High speed adjustment screw H	Turn it counterclockwise as far as possible – max. 3/4 turn
Low speed adjustment screw L	1 turn open

2.1.2 Standard setting without limiter caps:

High speed adjustment screw H	1 1/2 turns open
Low speed adjustment screw L	1 turn open

- Set speed (tolerance range +/- 200 rpm):

– Idle speed: 3,000 rpm

– Maximum speed: 7,000 rpm

3. Electric start

The BR 450C-EF is equipped with an electric start system which consists of the following components:

– Control module with built-in battery

– Starter with starter motor and starter gearbox

– Control handle with start button

The battery drives the starter motor which winds a spring in the starter gearbox. When enough tension is developed in the spring to overcome the engine compression, the engine is started.

When the engine is running, the generator charges the battery.

The battery is integrated into the control module and cannot be replaced separately.

If the unit is stored at temperatures below 32°F (0°C), it may cool down to an extent that it cannot be started electrically in order to protect the battery - in this case, the unit must be started manually.

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3.1 Special tools

The following special tools are required for STIHL blower BR 450 C-EF service.

– Diagnostic cable 0000 440 0800

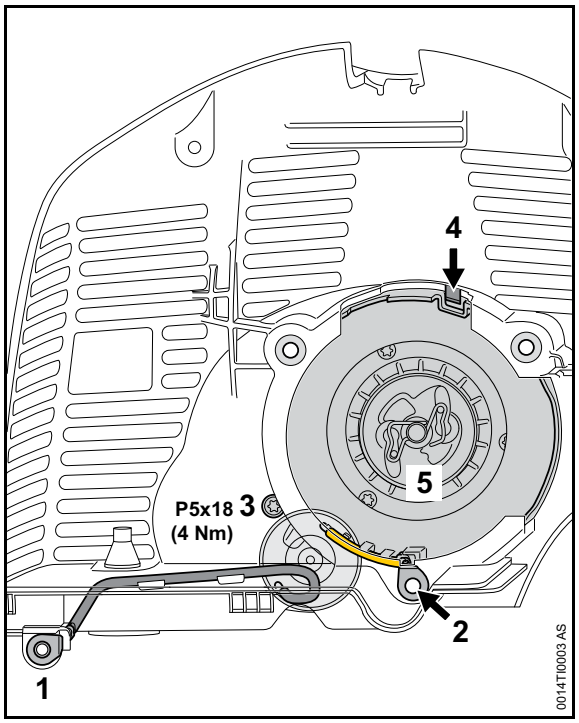
– Test lead wiring harness 5910 840 0905

– Power adapter 5910 400 8500

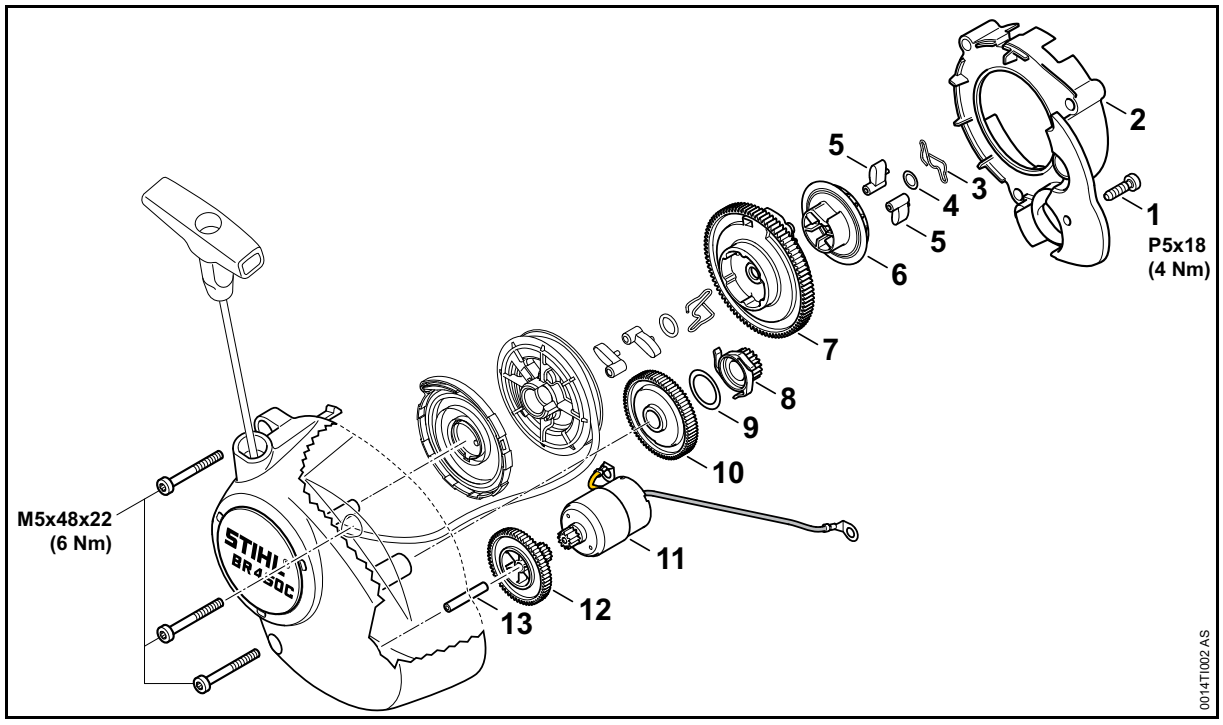
3.2 Starter BR 450 C-EF:

The starter must be disassembled in order to replace the starter rope or the rewind spring.

3.2.1 Removing the electric start



- Remove the shroud with starter
- Pull the cables (1) and (2) out of the guides.
- Remove screw (3).
- Press in locking pin (4).
- Push out starter (5).



3.2.2 Disassemble the electric start

The rewind spring may suddenly come out of position – **risk of injury!**

- Remove screw (1).
- Pull the cables of the electric motor (11) out of the guides.
- Remove the bearing shell (2).
- Remove the electric motor (11).
- Remove spring (3).
- Remove carrier (6) with washer (4) and pawls (5).
- Remove spring housing (7).
- Remove spur gear (8), adjusting washer (9) and spur gear (10).
- Remove spur gear (12) and dowel (13).

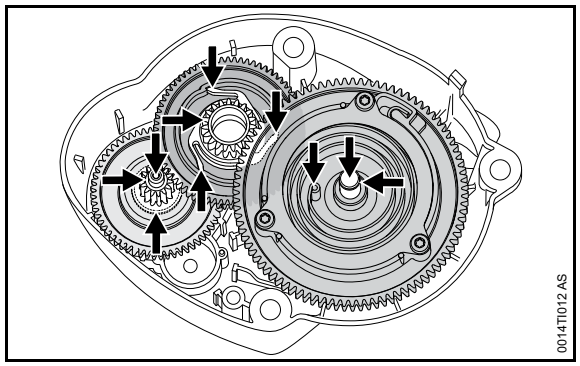
3.2.3 Assemble the electric start

- Insert dowel (13) and spur gear (12).
- Insert spur gear (10), adjusting washer (9) and spur gear (8).
- Insert spring housing (7).
- Insert carrier (6) with pawls (5) and washer (4).
- Insert spring (3).
- Insert the electric motor (11).
- Insert the bearing shell (2).
- Push the cables of the electric motor (11) into the guides.
- Insert and tighten screw (1)
- Press pawls together (5)
- Install the completed starter to the shroud.

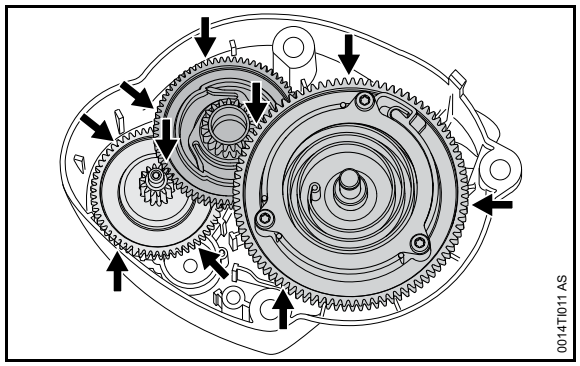
3.2.4 Lubrication of the electric start

Replaced components of the electric start must be lubricated before installation.

Grease used: Synthetic
grease G34 - 130, 40g 0781 120 6000

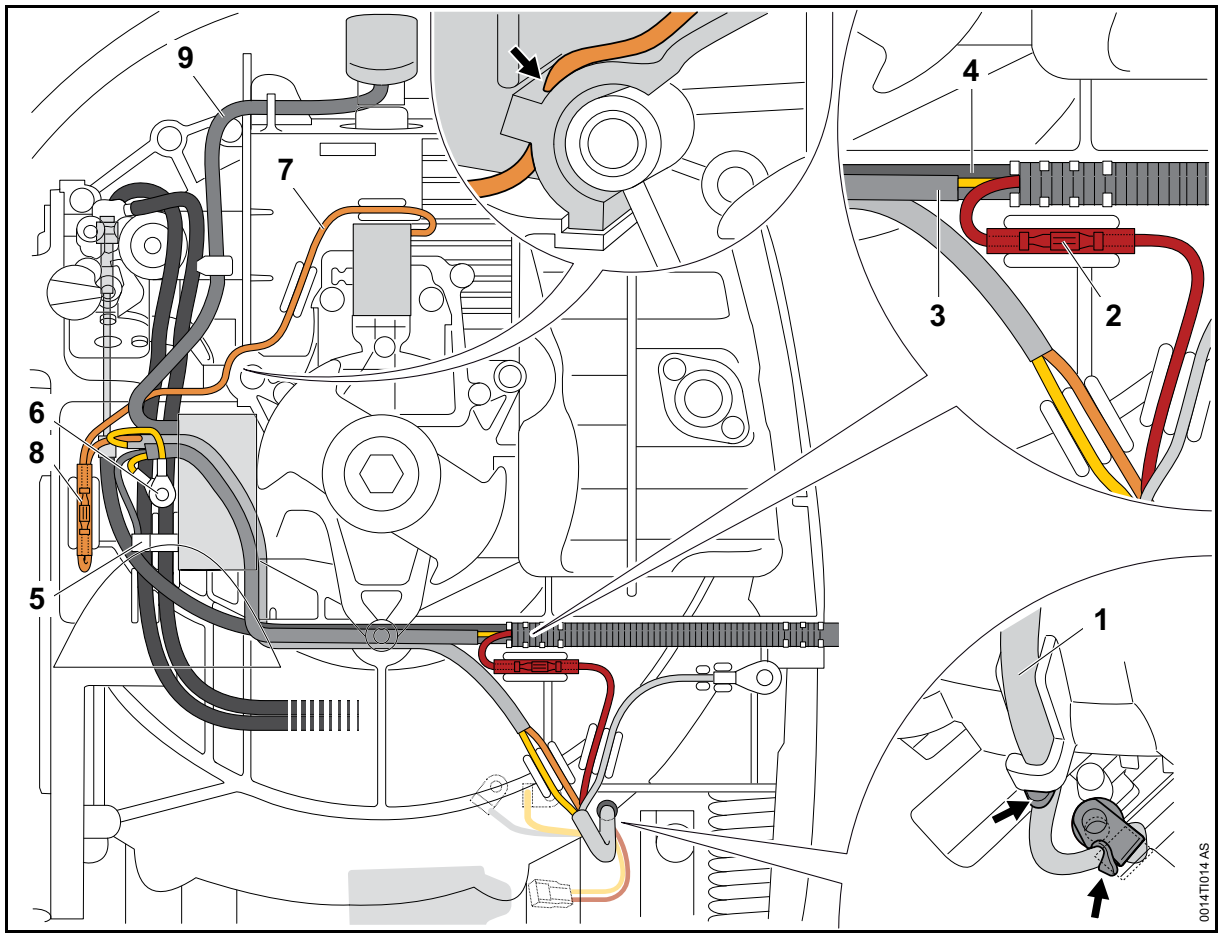


- Lubricate starter axis, register pin, carrier and spring housing (arrow)



- Grease gear teeth (arrow)

3.3 Cable routing



3.3.1 Cable routing wiring harness motor side

- Guide wiring harness (1) through the backplate and connect it with the control module.

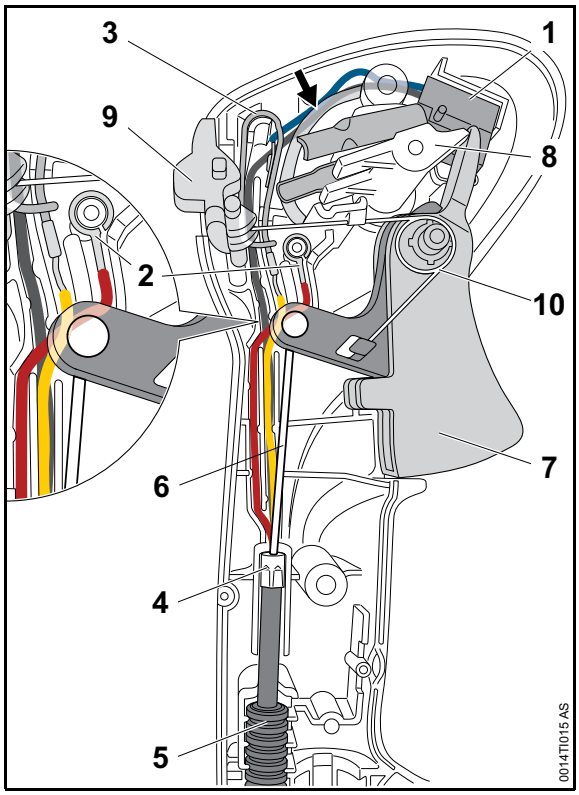
The cable ties are positioned closely to cable support and guide (arrows).

- Connect red cables with plug connector (2) and place them on the middle of the guides.
- Place the wiring harness (1), the throttle cable (4) and the wiring harness (3) of the control handle in the guides.

Wiring harness (1) and wiring harness (3) are positioned below the ignition module.

- Plug blade connector (5) to the ignition module.
- Fit ring cable connector (6) with screw to the ignition module.
- Place cable (7) of the generator into the guides.
- Connect orange cables with plug connector (8) and place them in the guides.
- Place ignition lead (9) in the guides.

3.3.2 Cable routing control handle



Assemble control handle

- Insert the microswitch (1)
- Place black cable into the guides.
- Put angled circular connector (2) onto the peg.

The opening of the angled circular connector (2) points in the direction of the throttle lever (7).

- Place red cable into the guides.
- Insert contact spring (3).
- Put the yellow cable over the red cable and press them into the guides.
- Put the sleeve of the throttle cable (4) and the hose (5) into the guides.
- Mount the throttle cable (6) into the throttle lever (7)
- Insert throttle lever (7).
- Insert cams (8).
- Insert starter button (9).
- Insert leg spring (10).

If replaced, the following components must be lubricated before assembly:

– Cams (8).

– Ramp in both half handles (arrow)

Grease used:

Synthetic grease G34 - 130, 40g 0781 120 6000

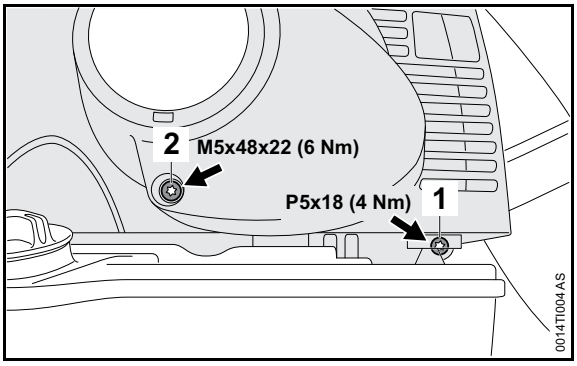
3.4 Diagnostic procedure electric start BR 450 C-EF

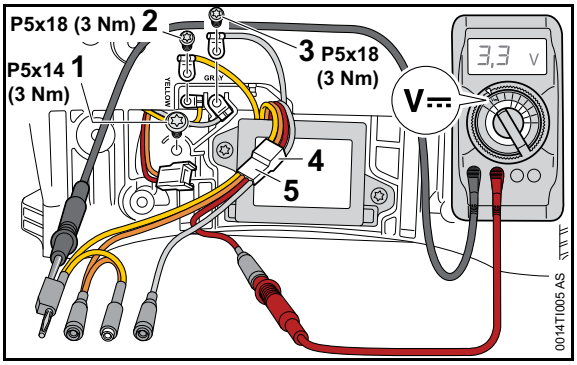
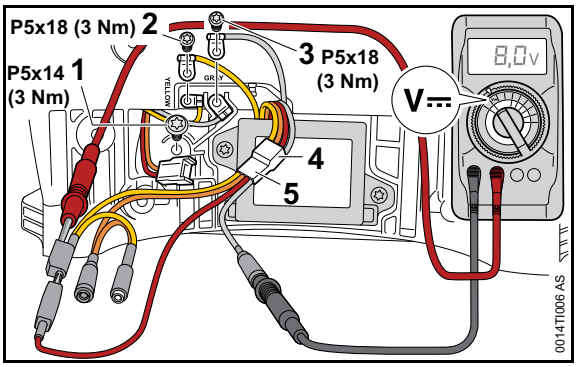
Electric start does not work. The unit can only be started manually.

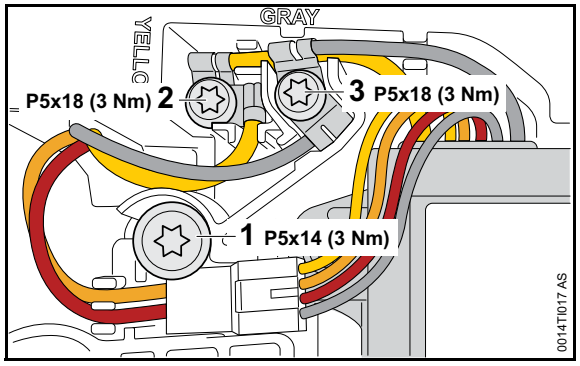
The following components may cause this fault:

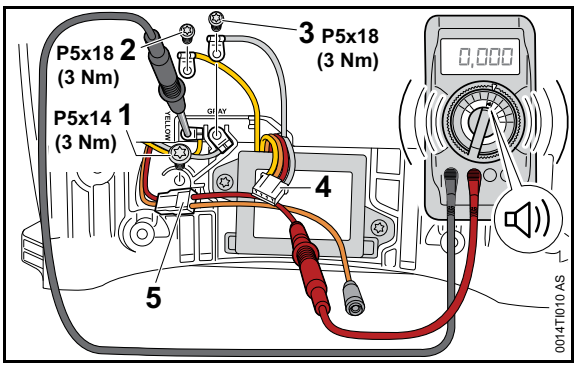
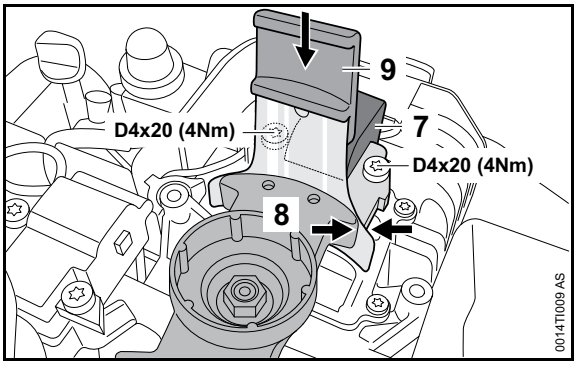
– Control module including battery
– Generator
– Wiring harness
– Start button in the control handle
– Electric motor

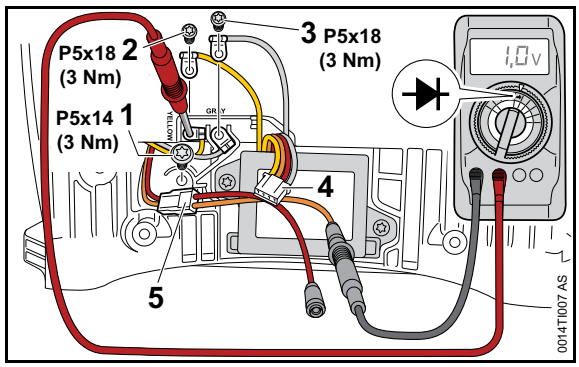
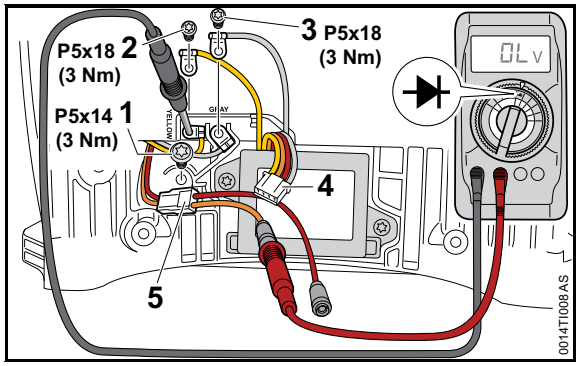
Check electric start as per the following chart:

		Yes	No
1	**Electric connections electric motor**  ● Check for proper torque of ring cable connectors ● Proceed with step 2.		
2	Is the screw (1) (connecting the ring cable connector of the electric motor) tightened properly?	● Proceed with step 3.	No electrical contact between the engine and the wiring harness. ● Tighten screw to 4 Nm. ● If the fault persists: Proceed with step 3.
3	Is the screw (2) (connecting the ring cable connector of the ground cable) tightened properly?	● Proceed with step 4.	No electrical contact between the engine and the ground connection. ● Tighten screw to 6 Nm. ● If the fault persists: Proceed with step 4.

		Yes	No
4	**Start switch voltage**  ● Remove the spark plug boot. ● Remove the backplate padding. ● Remove screws (1, 2, 3) ● Disconnect plug connection (4). ● Plug in diagnostic cable (5) 0000 440 0800. ● Measure the voltage between red and yellow cable. ● Proceed with step 5.		
5	Is the voltage at the following value: approx. 3.3 V?	● Proceed with step 6.	The control module is not functioning. ● Replace control module. ● If the fault persists: Proceed with step 6.
6	**Electric motor voltage**  ● Measure the voltage between gray and yellow cable. ● Connect red and yellow cable ● Proceed with step 7.		
7	Is the voltage at the following value for 3 seconds: 7.0 - 8.3 V?	The control module is working. ● Proceed with step 9.	● Proceed with step 8.

		Yes	No
8	Is the voltage at the following value for 3 seconds: > 8.4 V?	The control module is not functioning. ● Replace control module	● If the fault persists: Proceed with step 10.
9	Voltage is less than 7.5 V?	The battery is not charged sufficiently. ● Connect power supply and charge battery. ● If the fault persists: Proceed with step 11.	● Proceed with step 11.
10	Are the cables of the control module damaged?	The control module is not functioning. ● Replace control module. ● Proceed with step 11.	● Connect power supply and charge battery for 10 min. ● Proceed with step 6.
11	**Start button / generator**  ● Connect the cables of the control module with the cables of the unit. ● Insert and tighten screws (1, 2, 3). ● Press and hold the start button for 20 seconds. ● Proceed with step 12.		
12	Does the electric motor only rotate for 3 seconds?	The speed of the electric motor is less than < 200 rpm. The following components may not be functioning: – Generator – Wiring harness ● Proceed with step 14.	● Proceed with step 13.
13	Does the electric motor only rotate for 14 seconds?	● Proceed with step 15.	● Proceed with step 14.

		Yes	No
14	**Start button / wiring harness**  ● Remove screws (1, 2, 3) ● Disconnect plug connection (4). ● Connect test lead wiring harness (5) 5910 840 0905. ● Press and hold start button. ● Check the electrical continuity between red and yellow cable. ● Proceed with step 21.		
15	**Air gap / generator**  ● Remove shroud and starter. ● Set the air gap (8) between generator (7) and flywheel with setting gauge (9) 4118 890 6401. ● If the fault persists: Proceed with step 16.		

		Yes	No
16	**Diode Test 1**  ● Remove screws (1, 2, 3) ● Disconnect plug connection (4). ● Connect test lead wiring harness 5910 840 0905. ● Set multimeter to diode test. ● Connect the positive test probe (+) of the multimeter to the yellow cable. ● Connect the negative test probe (-) of the multimeter to the orange cable. ● Proceed with step 17.		
17	Does the diode test indicate the following value: approx. 1 V?	● Proceed with step 18.	● Check if all cables are correctly connected, 🕮 3.3 If the fault persists, the generator is not functioning. ● Replace generator. Repairs completed.
18	**Diode Test 2**  ● Connect the positive test probe (+) of the multimeter to the orange cable. ● Connect the negative test probe (-) of the multimeter to the yellow cable. ● Proceed with step 19.		

		Yes	No
19	Does the diode test indicate the following value: infinite?	The generator is working. ● If the fault persists: Proceed with step 20.	● Check if all cables are correctly connected, 🕮 3.3 If the fault persists, the generator is not functioning. ● Replace generator. Repairs completed.
20	● Replace electric motor. Repairs completed.		
21	Does the multimeter indicate electrical continuity?	● Proceed with step 15.	The following components may not be functioning: – Start button – Wiring harness in the control handle ● If the start button is not functioning: Replace contact spring in the control handle. ● If the wiring harness in the control handle is not functioning: Replace wiring harness in the control handle. ● If the fault persists: Proceed with step 11.

3.5 Repair times

BR 450, BR 450 C-EF

Code	Type of Repair	BR 450C-EF	BR 450
2	Replace crankcase, crankcase gasket or re-seal crankcase. Includes air leak test.	100	100
3	Replace crankshaft main bearing(s). Includes air leak test .	100	100
4	Replace crankshaft seal(s). Includes air leak test	60	60
5	Replace tank filler cap	6	6
6	Replace cylinder and/or piston. Includes air leak test and repair of components causing failure.	100	100
7	Replace ignition module. Includes stop circuit test	25	25
8	Replace fuel tank line, tank vent, or fuel pick-up body	25	25
9	Replace intake manifold or intake flange	25	25
10	Repair or replace carburetor. Includes fuel system testing	30	30
11	Repair throttle control	20	20
12	Repair or replace rewind starter		15
13	Replace fan wheel.	30	30
14	Replace muffler.	25	25
15	Replace air filter or filter housing.	20	20
16	Repair or replace stop switch. Includes circuit testing.	25	25
17	Replace fan housing.	50	50
18	Replace pleated tube.	20	20
19	Replace air discharge tube or elbow.	15	15
20	Replace back plate.	15	15
21	Replace shoulder strap(s).	15	15
22	Replace fuel tank.	25	25
26	Replace control module. Includes circuit test	25	
27	Replace wiring harness. Includes circuit test.	40	
28	Replace starter assembly. Includes function and circuit test	25	
29	Replace electric motor. Includes circuit test	30	
30	Replace starter gear(s). Includes function and circuit test.	40	
31	Replace generator. Includes circuit test.	25	
35	Engine diagnosis only to determine failures requiring unit replacement.	25	25
40	Miscellaneous repairs and other repairs not listed.	15	15
45	Handling allowance only-no labor.	5	5
50	No labor	0	0

BR 200

Blowing Force/Newtons | **12** | Avg. Air Velocity | **125 mph** | Max. Air Velocity | **150 mph** | Air Volume (cfm)* | **400 cfm** |

BR 350

Blowing Force/Newtons | **17** | Avg. Air Velocity | **167 mph** | Max. Air Velocity | **201 mph** | Air Volume (cfm)* | **436 cfm** |

BR 500

CARING FOR NATURE

Blowing Force/Newtons | **22** | Avg. Air Velocity | **173 mph** | Max. Air Velocity | **207 mph** | Air Volume (cfm)* | **544 cfm** |

BR 430

Blowing Force/Newtons | **26** | Avg. Air Velocity | **183 mph** | Max. Air Velocity | **219 mph** | Air Volume (cfm)* | **500 cfm** |

BR 550

CARING FOR NATURE

Blowing Force/Newtons | **27** | Avg. Air Velocity | **211 mph** | Max. Air Velocity | **252 mph** | Air Volume (cfm)* | **547 cfm** |

BR 450

CARING FOR NATURE

Blowing Force/Newtons | **28** | Avg. Air Velocity | **186 mph** | Max. Air Velocity | **221 mph** | Air Volume (cfm)* | **642 cfm** |

BR 450 C-EF

CARING FOR NATURE

Blowing Force/Newtons | **28** | Avg. Air Velocity | **186 mph** | Max. Air Velocity | **221 mph** | Air Volume (cfm)* | **642 cfm** |

BR 600 MAGNUM®

CARING FOR NATURE

Blowing Force/Newtons | **32** | Avg. Air Velocity | **199 mph** | Max. Air Velocity | **238 mph** | Air Volume (cfm)* | **677 cfm** |

> Blowers tested in accordance with ANSI 175.2 standard. Newton is the force needed to accelerate 1 kilogram of mass at the rate of 1 meter per second squared. MPH - Miles Per Hour *Air Volume w/tube

FIND YOUR POWER

STIHL®

BGE 61

Blowing Force/Newtons | **9** | Avg. Air Velocity | **129 mph** | Max. Air Velocity | **156 mph** | Air Volume (cfm)* | **300 cfm** |

BGA 85 36 VOLT

Blowing Force/Newtons | **10** | Avg. Air Velocity | **104 mph** | Max. Air Velocity | **125 mph** | Air Volume (cfm)* | **391 cfm** |

BG 66 L

Blowing Force/Newtons | **10** | Avg. Air Velocity | **115 mph** | Max. Air Velocity | **138 mph** | Air Volume (cfm)* | **418 cfm** |

BGE 71

Blowing Force/Newtons | **12** | Avg. Air Velocity | **151 mph** | Max. Air Velocity | **183 mph** | Air Volume (cfm)* | **300 cfm** |

BG 50

Blowing Force/Newtons | **13** | Avg. Air Velocity | **134 mph** | Max. Air Velocity | **159 mph** | Air Volume (cfm)* | **412.02 cfm** |

BG 56 C-E

Blowing Force/Newtons | **13** | Avg. Air Velocity | **134 mph** | Max. Air Velocity | **159 mph** | Air Volume (cfm)* | **412.02 cfm** |

SH 56 C-E

Blowing Force/Newtons | **13** | Avg. Air Velocity | **134 mph** | Max. Air Velocity | **159 mph** | Air Volume (cfm)* | **412.02 cfm** |

BG 86

Blowing Force/Newtons | **15** | Avg. Air Velocity | **141 mph** | Max. Air Velocity | **169 mph** | Air Volume (cfm)* | **444 cfm** |

BG 86 C-E

Blowing Force/Newtons | **15** | Avg. Air Velocity | **141 mph** | Max. Air Velocity | **169 mph** | Air Volume (cfm)* | **444 cfm** |

SH 86 C-E

Blowing Force/Newtons | **15** | Avg. Air Velocity | **141 mph** | Max. Air Velocity | **169 mph** | Air Volume (cfm)* | **444 cfm** |

BGA 100 36 VOLT

Blowing Force/Newtons | **5-17**^ | Avg. Air Velocity | **76-140 mph**^ | Max. Air Velocity | **92-167**^ **mph** | Air Volume (cfm)* | **270.76 to 494.42 cfm** |

> Blowers tested in accordance with ANSI 175.2 standard. Newton is the force needed to accelerate 1 kilogram of mass at the rate of 1 meter per second squared. MPH - Miles Per Hour *Air Volume w/tube

Technical Information

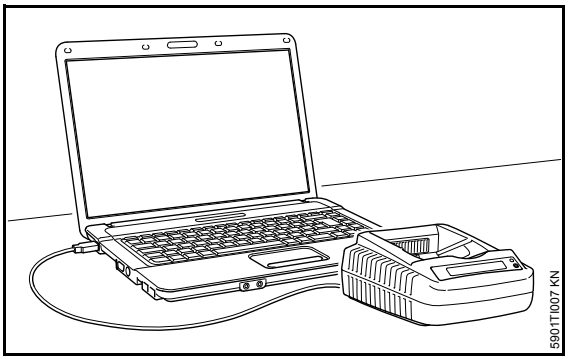
26.2012

STIHL ADG 1, ADG 2 Analyzers – Series 4850

Contents

1. Diagnosis with STIHL Diagnostic Software

In the future the ADG 1 and ADG 2 diagnosis procedures may also be performed with the aid of a computer and recorded in the form of a diagnosis report.



The analyzer is connected to the computer with a USB connecting cable.

A USB connecting cable 5910 840 0501 will be supplied with ADG 1 and ADG 2 analyzers.

Do not connect the ADG 1 or ADG 2 to the computer until installation of the STIHL diagnostic software is completed. Observe the following notes regarding Installation.

2. Installing STIHL Diagnostic Software

STIHL diagnostic software may be used only in conjunction with STIHL analyzers.

2.1 System Requirements

STIHL diagnostic software may only be installed on a computer that meets the system requirements. Administrator rights are required for installation under Microsoft® Windows®– contact the system administrator if necessary.

Operating System

– Microsoft® Windows® XP SP 3 or

– Microsoft® Windows Vista® or

– Microsoft® Windows® 7

Software Requirements

– Microsoft® .NET 3.5 SP 1 or higher

– Adobe® Acrobat® Reader 9 or higher

2.2 Hardware Requirements

Minimum Requirements

– CPU 1 GHz

– 256 MB free memory

– minimum of 100 MB hard disk space

– Resolution – SVGA monitor (minimum resolution 1024 x 768)

– USB interface 1.1 or higher

– CD-ROM or DVD drive

Recommended configuration

– CPU 2 GHz

– 512 MB free memory

– minimum of 100 MB hard disk space

– Resolution – SVGA monitor (minimum resolution 1024 x 768)

– USB interface 1.1 or higher

– CD-ROM or DVD drive

2.3 Installing STIHL Diagnostic Software

It is essential to observe the sequence of the steps described. Only then will the STIHL diagnostic software be properly installed on the computer and the analyzer connected to the computer.

1. Check system requirements – see:
   🕮 2.1 System Requirements
   🕮 2.2 Hardware Requirements
2. Installing STIHL Diagnostic Software – see:
   🕮 2.3.1 Installation with CD-ROM
   🕮 2.3.2 Installation via Internet
3. Connect analyzer to power supply and the computer – see:
   🕮 4. Connecting Analyzer to Computer
4. Start STIHL diagnostic software.

2.3.1 Installation with CD-ROM

- Place CD-ROM in computer's CD-ROM or DVD drive.

Automatic Start

The automatic start works only if the computer supports automatic starting of a program from a CD-ROM (AUTORUN). If the setup program is not started automatically, start it manually.

Manual Start

- Open My Computer and select CD-ROM or DVD-ROM drive.
- Start installation by double clicking on "SDSSetup.exe".

2.3.2 Installation via Internet

The diagnostic software can also be downloaded – https://download.stihl.com/sds/sdssetup.exe

Access Data

User name: _stihl_sds_user

Password: STIHL_diagnose_download!

3. Updating STIHL Diagnostic Software

The introduction of new power tools and additional diagnostic functions necessitate a software update.

The update can be performed as described below.

3.1 Direct Update via Internet

Computer with diagnostic software has internet access:

In the menu bar, select button "Check for updates...". The diagnostic software checks whether an update is available. If yes, the update is performed automatically.

4. Connecting Analyzer to Computer

Connect the analyzer to the computer only after installing the STIHL diagnostic software.

- Connect analyzer to the computer with the USB cable.

The operating system installs the drivers automatically – providing the function has not been deactivated. Otherwise the driver has to be installed manually and the hardware assistent appears.

- Check – "No, not this time" – click "Next".
- Check – "Install software from a list or other source" – click "Next".
- Check – "Also search following source" – click "Search".

The following directory must be selected for drivers:

Directory for ADG 1

Installation Directory\STIHL\SDS\ Driver\ ADG 1\

- Select installation directory, e.g. Microsoft® Windows® XP Standard Installation Directory: C:\Programs\STIHL\SDS\Driver\ADG1\) – click "OK"
- Driver is installed. Exit assistent with "Finish".
- Restart the computer.
- Start STIHL diagnostic software.

Status bar shows message: "ADG 1 connected".

- Clicking on "ADG 1" graphic changes view on screen to "Initializing".
- Now follow the operating instructons for the STIHL diagnostic software – observe safety precautions in STIHL diagnostic software during operation.

Directory for ADG 2

Installation Directory\STIHL\SDS\ Driver\ ADG 2\

- Select installation directory, e.g. Microsoft® Windows® XP Standard Installation Directory: C:\Programs\STIHL\SDS\Driver\ADG2\ – click "OK"
- Driver is installed. Exit assistent with "Finish".
- Restart the computer.
- Start STIHL diagnostic software.

Status bar shows message: "ADG 2 connected".

- Clicking on "ADG 2" graphic changes view on screen to "Initializing".

Now follow the operating instructons for the STIHL diagnostic software – observe safety precautions in STIHL diagnostic software during operation.

5. Updating Analyzer

The analyzers must be updated to cover the latest cordless power tools or new batteries and additional diagnostic functions.

The update can be performed as described below.

5.1 Direct update with STIHL diagnostic software and internet access

Computer with diagnostic software has access to internet – see "Diagnostic Software":

- Connect analyzer to the computer with the USB cable.
- In the menu bar, select button "Check for updates...".

The diagnostic software checks whether an update is available. If yes, the update is performed automatically.

5.2 Indirect update (without computer)

If no computer is available, contact the sales subsidiary.

6. Using the Analyzer

– It is essential to observe all country-specific safety regulations and the safety precautions in the instruction manual when operating the analyzer.

– The analyzer may be operated only if it is in good working order.

– Use the analyzer only to test STIHL cordless products.

– Visual inspection – check exterior of cordless product for signs of damage.

– Before starting the test, exclude any risk of injury from attachment on power tool being tested – **risk of accidents**. Position power tool correctly, mount protective devices or accessories (e.g. cutterless chain).

– Wear personal protective equipment.

– No user entries can be made on the computer while the test is running.

Technical Information

07.2013

Troubleshooting with STIHL ADG 1 Battery Analyzer – Series 4850

Contents

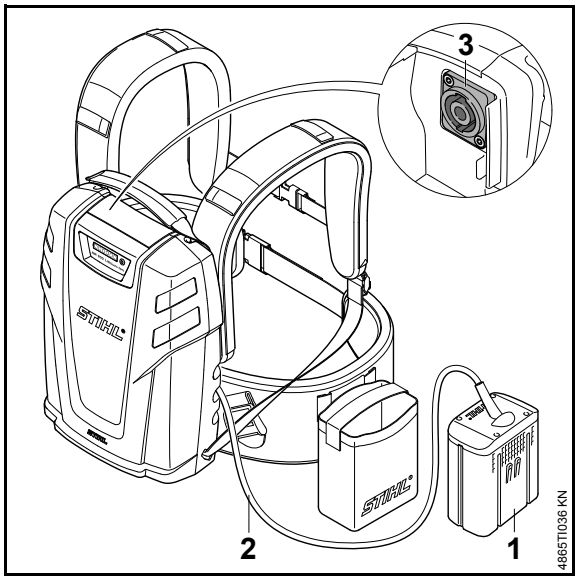
1. Notes on Diagnosis

The following information is for diagnosing STIHL type AP and AR batteries. A software update is required to enable the ADG 1 to be used for new STIHL battery types. The software update is carried out by way of STIHL diagnostics software (SDS). The procedures for installing and updating STIHL diagnostics software and the STIHL ADG 1 are described in TI 26.2012.

It is possible to perform repairs on the adapter, connecting cable and socket of STIHL **type AR** batteries, see 🕮 4 and 🕮 5

No repairs are possible on STIHL **type AP** batteries.

2. Overview of Parts (only type AR batteries)



1 Adapter
2 Connecting Cable
3 Socket

3. Technical Description

The latest STIHL diagnostics software (2.1.0 Build 104 – Release 01/2013) updates the STIHL ADG 1 with an extended range of functions. Operation is described below and replaces the instructions supplied with the Analyzer.

3.1 Connecting to Power Supply

- Connect the analyzer to the power supply.

The following text appears on the display:

Battery analyzer ADG 1

A self test runs when the analyzer is connected to the power supply. During this process the LED on the analyzer glows green, yellow for about 1 second, then red and goes off again.

Self test

If the self test shows a malfunction, the LED on the analyzer glows red.

Battery analyzer faulty

If the self test is successfully completed:

Insert battery

3.2 Testing the battery

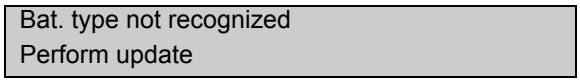
- Push the battery into the analyzer until you feel resistance – then push it until it stops.

The test procedure begins as soon as the LEDs on the battery glow.

The following text appears on the display:

The battery and analyzer communicate with each other. This may take several minutes.

Identification of the battery is not possible if data exchange between the battery and analyzer fails.The LED on the analyzer glows yellow and the following text appears on the display:



or

- Carry out a software update in both cases – see also TI 26.2012 – and repeat the test.

3.2.1 Identification

Meanings:

SN:	Serial number
Type:	Battery type (e.g. AP 80)
Date of man.	Month – Year of manufacture

Indication of state of charge:

- Press the button on the analyzer to call up further information.

3.2.2 Battery OK

Battery is serviceable and can be used.

- Press button on analyzer.

The remaining life of a new battery is 100%. Its remaining life is reduced as it ages.

3.2.3 Malfunction in Battery

Once it is identified, the battery is tested for malfunctions.
If a malfunction exists, the following text appears on the dispay:

Fault found

Details of the malfunction are then shown:

Wiring harness (25, F25, 33)

The error message (top line of display) and the damage codes (bottom line of display) show the reason for the malfunction in the battery.

If a warranty claim is filed, include the message and damage code in the explanation section of the claim.

The possible error messages and damage codes are listed in 🕮 4.

3.2.4 After Test

The following text appears when the test is finished:

Remove battery End of test

- Take the battery out of the analyzer.

4. Overview of Faults

The following error messages and damage codes may appear during the test.

If several damage codes occur, the error message with the highest priority is shown. The following chapters show the error messages in order of priority.
A repair may be carried out only if a remedy is shown for all damage codes.

(xxx) or (Fxx) = damage code

4.1 Error Message "Battery cells"

Battery cells (xxx)

Damage code	Fault Description	Remedy
1 - 8 F1 - F8	Malfunction in battery cells	Repair not possible – Replace battery if within warranty time period

4.2 Error Message "Electronics"

Electronics (xxx)

Damage code	Fault Description	Remedy
9 - 24 F9 - F24	Internal electronic malfunction	Repair not possible – Replace battery if within warranty time period

4.3 Error Message "Wiring harness"

Wiring harness (xxx)

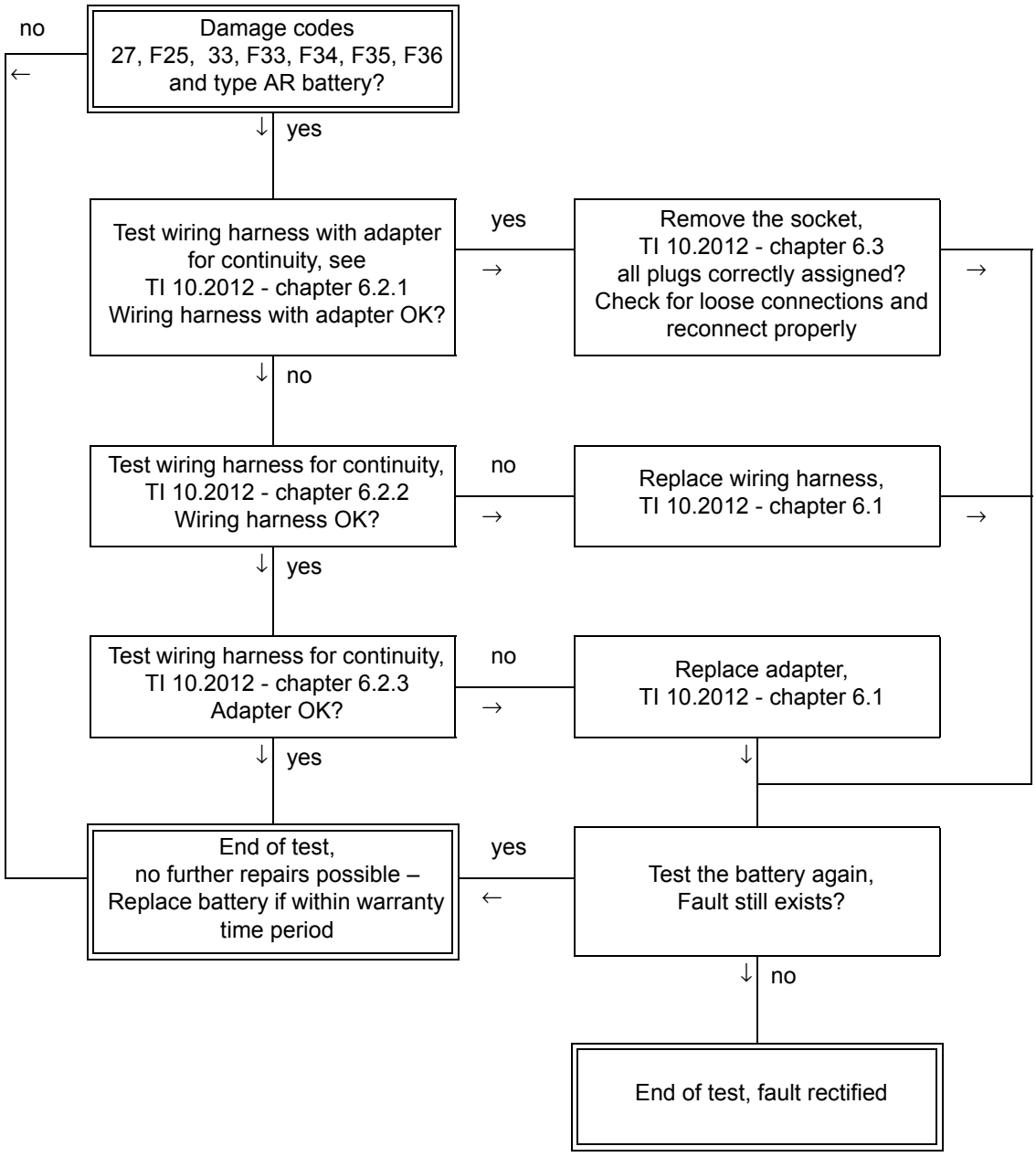
Damage code	Fault Description	Remedy
25 - 26	Wiring faulty	Repair not possible – Replace battery if within warranty time period
27		Type AR – test with aid of troubleshooting chart 🕮 5 Type AP – repair not possible – Replace battery if within warranty time period
28 - 32		Repair not possible – Replace battery if within warranty time period
F25		Type AR – test with aid of troubleshooting chart 🕮 5 Type AP – repair not possible – Replace battery if within warranty time period
F26 - F32		Repair not possible – Replace battery if within warranty time period

4.4 Error Message "Contact"

Contact (xxx)

Damage code	Fault Description	Remedy
33	Contact fault	Type AR – test with aid of troubleshooting chart 🕮 5 Type AP – repair not possible – Replace battery if within warranty time period
34 - 40		Repair not possible – Replace battery if within warranty time period
F33 - F36		Type AR – test with aid of troubleshooting chart 🕮 5 Type AP – repair not possible – Replace battery if within warranty time period
F37 - F40		Repair not possible – Replace battery if within warranty time period

5. Flow Chart – Troubleshooting Error Message "Wiring harness" or "Contact" (only for STIHL type AR batteries)



STIHL®

Technical Information

20.2012

Troubleshooting with analyzer STIHL ADG 2 – Series 4850

Summary

1. Information about diagnosis with the ADG 2
2. Overview of components of cordless machines
3. Overview of faults
4. Flow charts – Troubleshooting

1. Information about diagnosis with the ADG 2

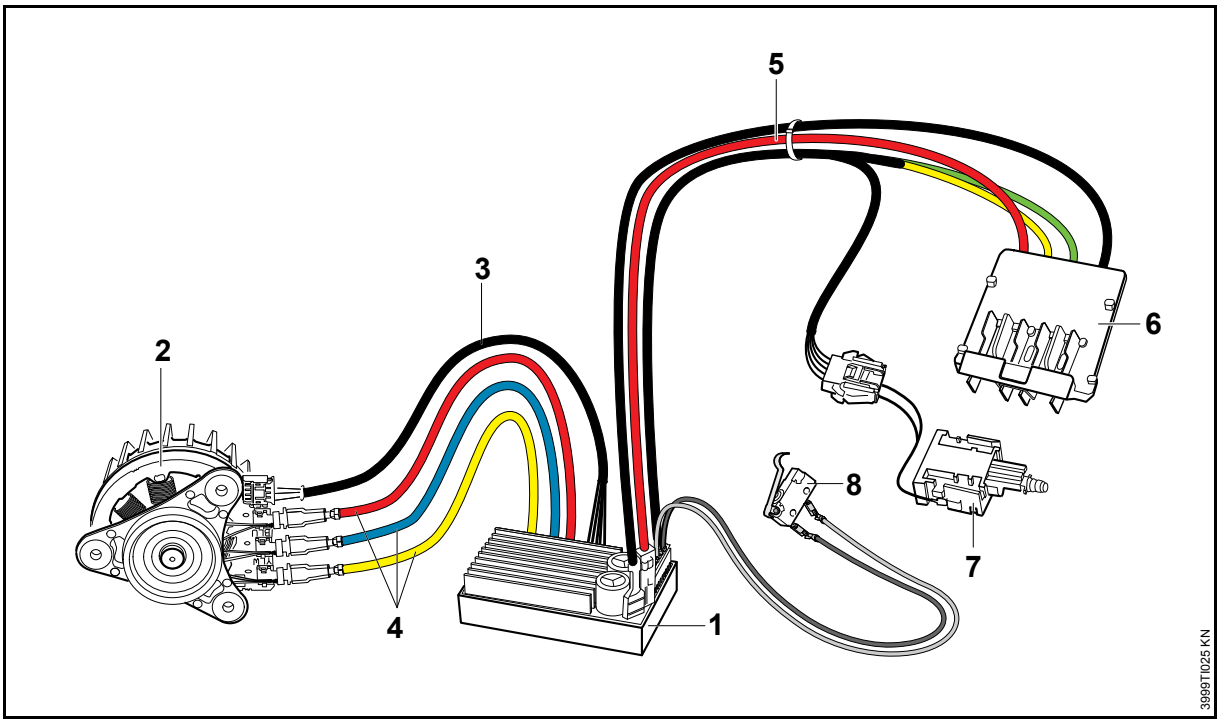
The following information is provided for the specific diagnosis of electrical components in STIHL cordless machines. This information supplements TI 51.2010. The flow charts in TI 51.2010 are replaced by the updated flow charts in this TI.

Observe operational instructions in the TI 51.2010 and instruction manual for ADG 2.

Observe safety instructions for using the ADG 2 and the cordless machine to be tested in the respective instruction manual.

In the future, analyzer ADG 2 can be used with the STIHL diagnostic software.
Connecting the ADG 2 requires updating the STIHL diagnostic software.
The update will be available in the near future.
Only connect the analyzer ADG 2 to the computer after the updated STIHL diagnostic software has been installed.

2. Overview of components of cordless machines



1 Electronic module
2 Electric motor
3 Sensor lead
4 Motor lead
5 Wiring harness
6 Contact plate
7 Potentiometer switch (control handle)
8 Switch (depending on cordless machine)

3. Overview of faults

3.1 Possible faults in STIHL cordless machine

If a fault occurs during the analysis of the cordless machine, depending on what the fault is, one of the following error messages appears on the display.

(xxx) or (Fxx) = damage code

3.1.1 Error message "Electronic module"

Electronic module (xxx)

Damage code	Fault description	Remedy
1	Hardware faulty	Replace the electronic module (**1**)
2 - 29 33 50 52 53 55 - 59 61 - 72 74 - 76 78 - 99 101 103	Internal electronic fault	
32	Temperature measurement faulty	
35	Incorrect calibration values	
36	Incorrect operating parameters	
41 - 44	Voltage measurement faulty	

3.1.2 Error message "Sensor signal"

Sensor signal (xxx)

Damage code	Fault description	Remedy
31, 60	Fault in engine temperature measurement	Check sensor lead (**3**) according to flow chart – see 🕮 4.1
34 48 77 102	Fault in detection of engine position	

3.1.3 Error message "Motor lead / motor"

Motor lead / motor (xxx)

Damage code	Fault description	Remedy
0	Disconnection	Check motor lead (**4**) / motor (**2**) according to flow chart – see 🕮 4.2
45	Short circuit	
46	Motor lead interchanged	
51	Output power of electronics too high	
54	Braking time of tool too long	
73	Disconnection	

3.1.4 Error message "Motor lead / sensor signal"

Motor lead / sensor signal (xxx)

Damage code	Fault description	Remedy
47	Fault in detection of engine position	Check motor lead (**4**) / sensor lead (**3**) according to flow chart – see 🕮 4.3
49	Engine speed too low	

3.1.5 Error message "Wiring harness"

Wiring harness (xxx)

Damage code	Fault description	Remedy
37 - 40 100	Connection between wiring harness and contact plate faulty	Check wiring harness (**5**) according to flow chart – see 🕮 4.4

3.1.6 Error message "Wiring harness / switch"

Wiring harness / switch (xxx)

Damage code	Fault description	Remedy
30	Switch not detected	Check wiring harness (**5**) / switch (**7**) according to flow chart – see 🕮 4.5

3.1.7 Error message "Short circuit"

Short circuit (xxx)

Damage code	Fault description	Remedy
- - -	ADG 2 faulty or short circuit in cordless machine	Test ADG 2 according to flow chart – see 🕮 4.7

3.1.8 Error message "Test base load"

Test base load (F01)

Damage code	Fault description	Remedy
F01	Required force during operation too high	Test machine according to flow chart – see 🕮 4.8

3.1.9 Error message "Switch"

Switch (Fxx)

Damage code	Fault description	Remedy
F10	Trigger switch not detected	Test switch (**7**) according to flow chart – see 🕮 4.6
F11	Potentiometer switch (7) not detected	Test switch (**7**) according to flow chart – see 🕮 4.6
F12	Chain brake switch (8) (MSA) not detected	Test switch (**8**) according to flow chart – see 🕮 4.6
F13	Switch lever switch (8) (HSA) not detected	Test switch (**8**) according to flow chart – see 🕮 4.6

3.1.10 Error message "Battery less suitable"

Battery less suitable (F02)

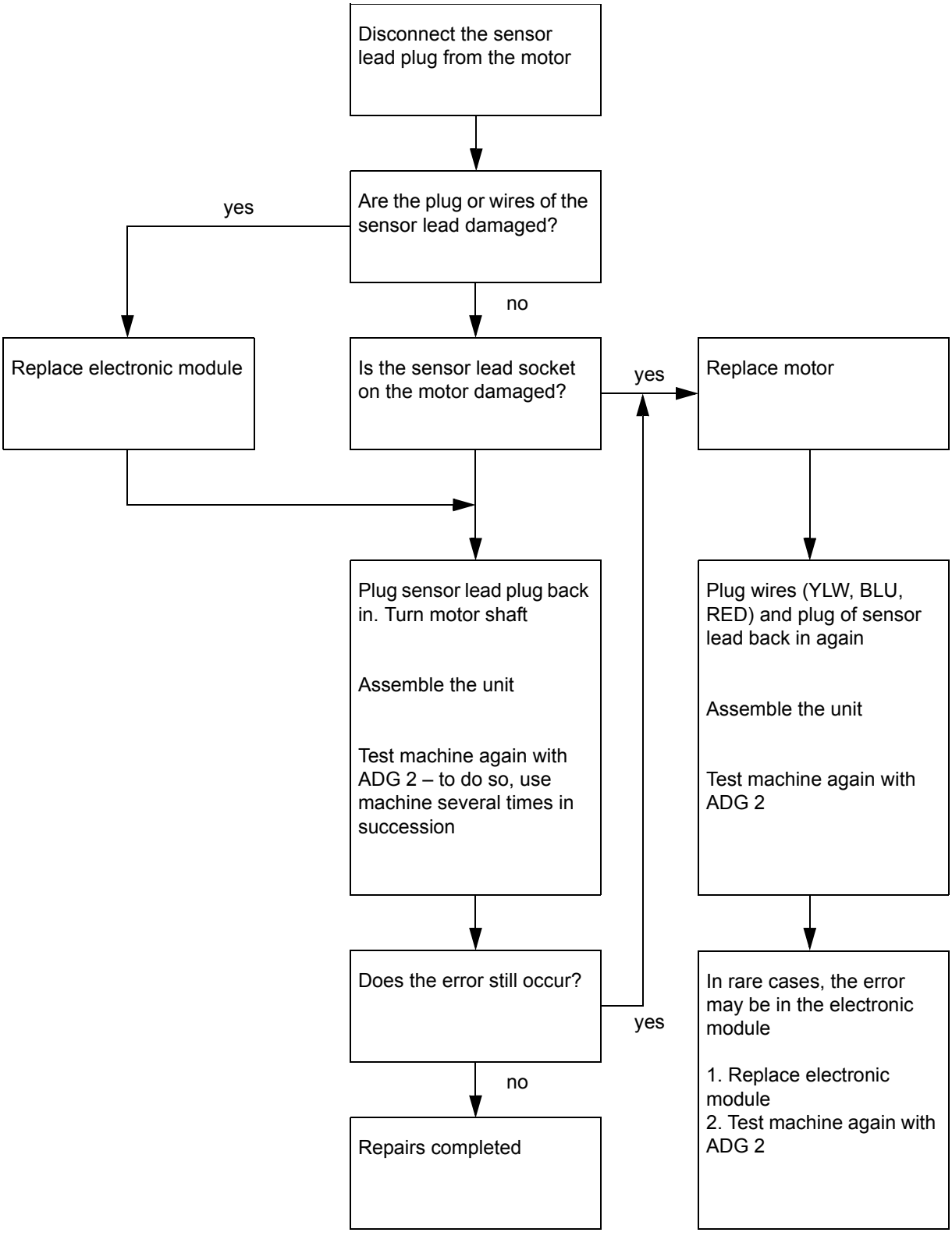
Damage code	Fault description	Remedy
F02	Rated capacity of battery being used is too low	Use recommended battery for the cordless machine

3.2 Other possible faults (external influences)

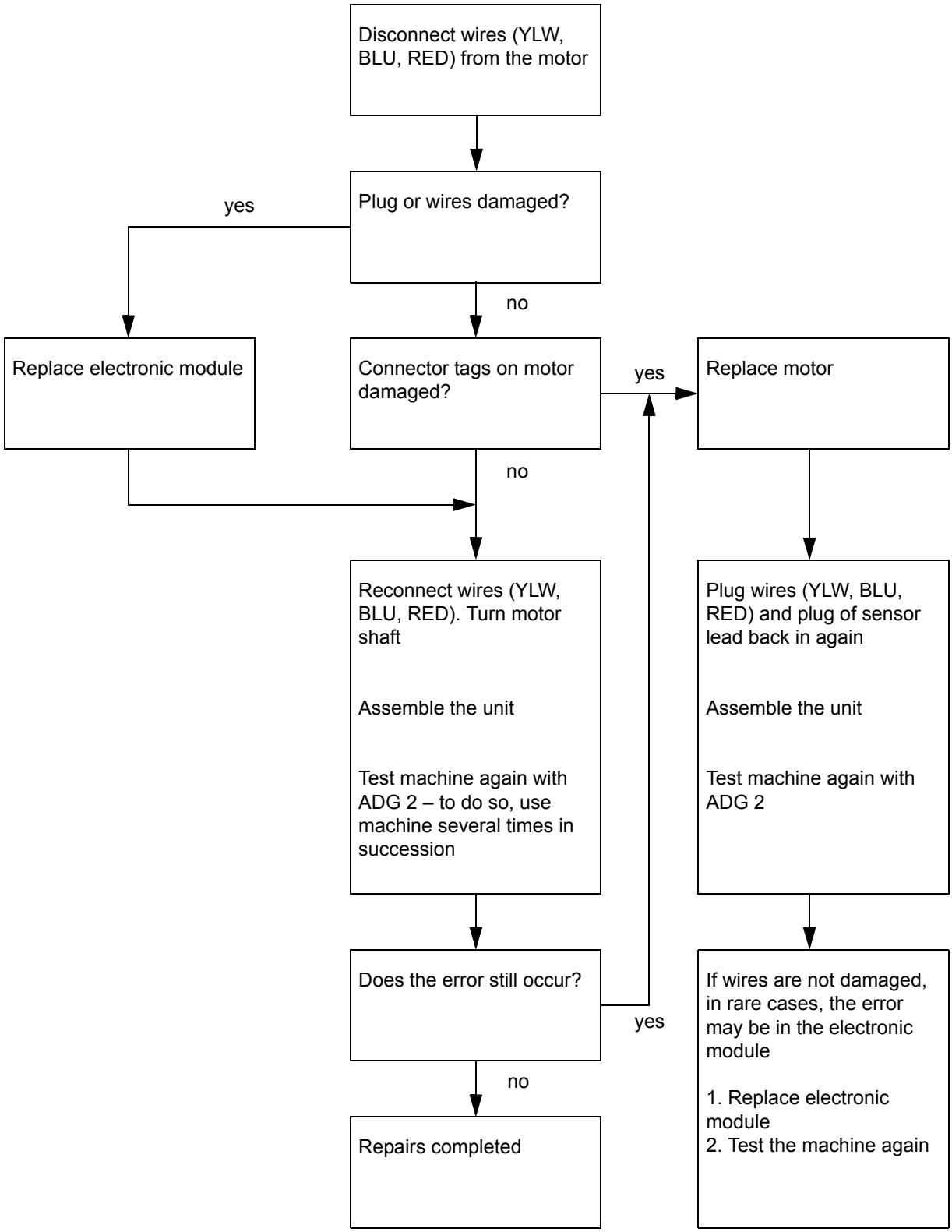
Carry out troubleshooting from the chapter "Repairs" of the TI for the introduction of the relevant cordless machine

4. Flow charts – Troubleshooting

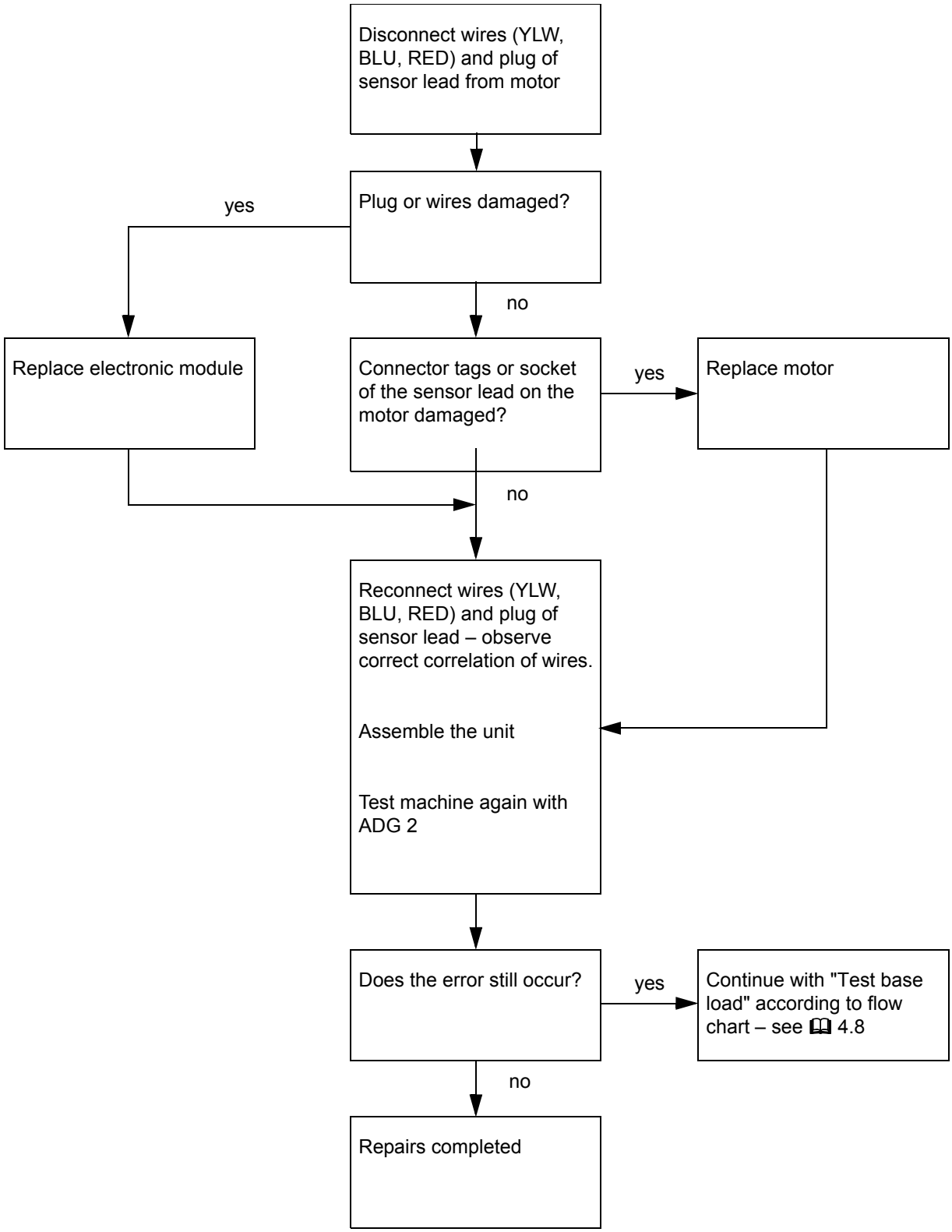
4.1 Flow chart / Troubleshooting – Error message "Sensor signal"



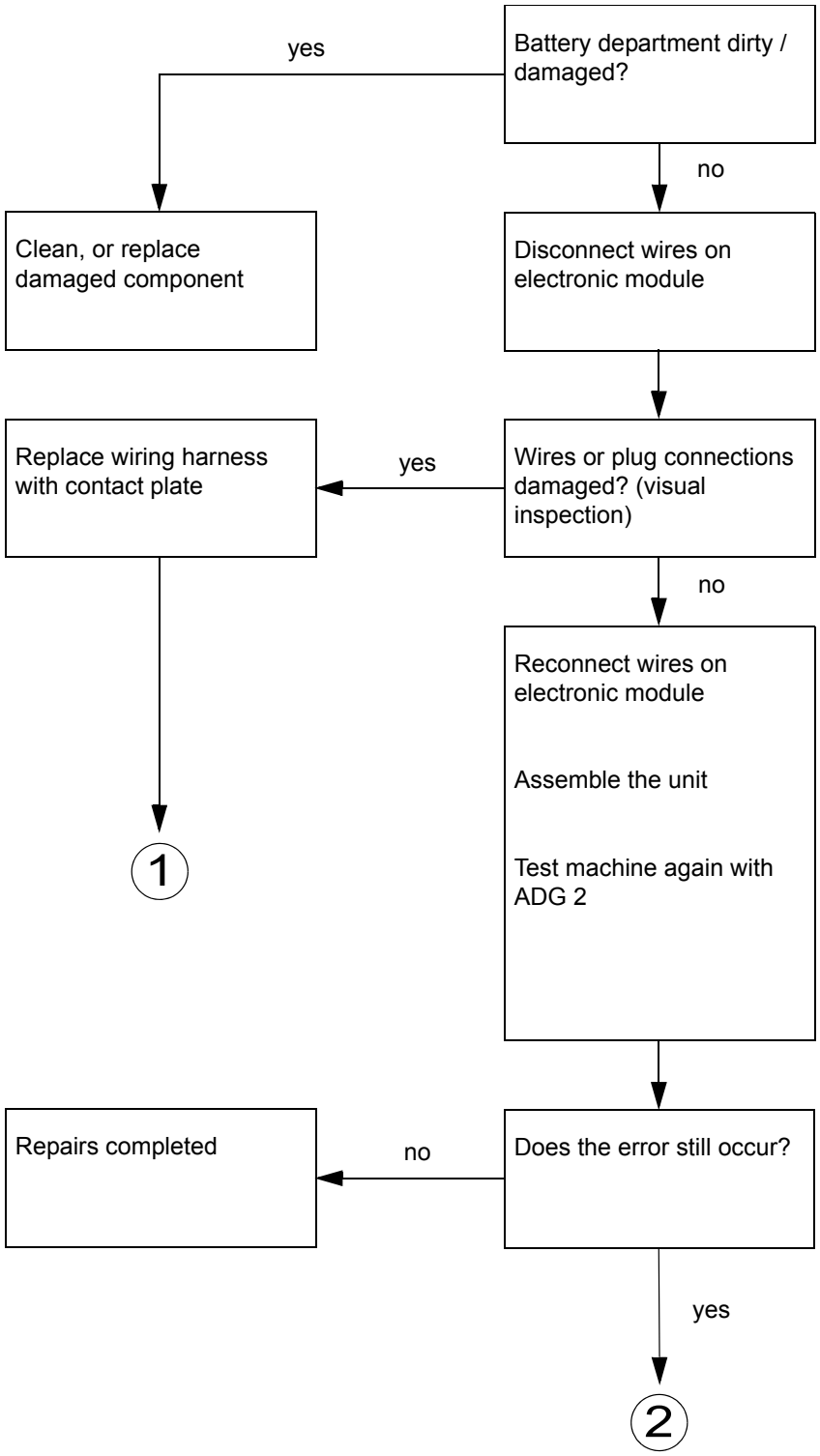
4.2 Flow chart / Troubleshooting – Error message "Motor lead / motor"

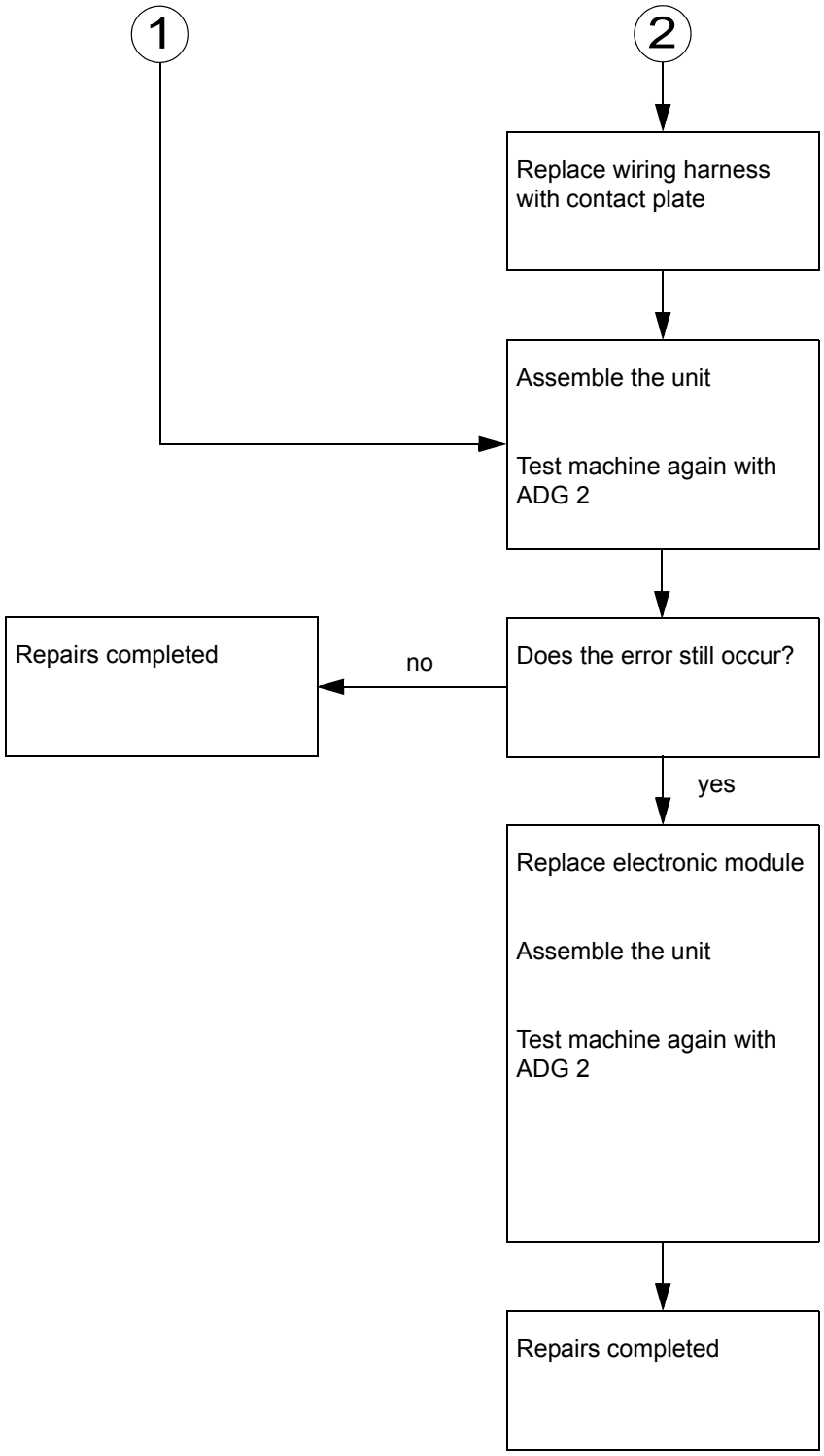


4.3 Flow chart / Troubleshooting – Error message "Motor lead / sensor signal"

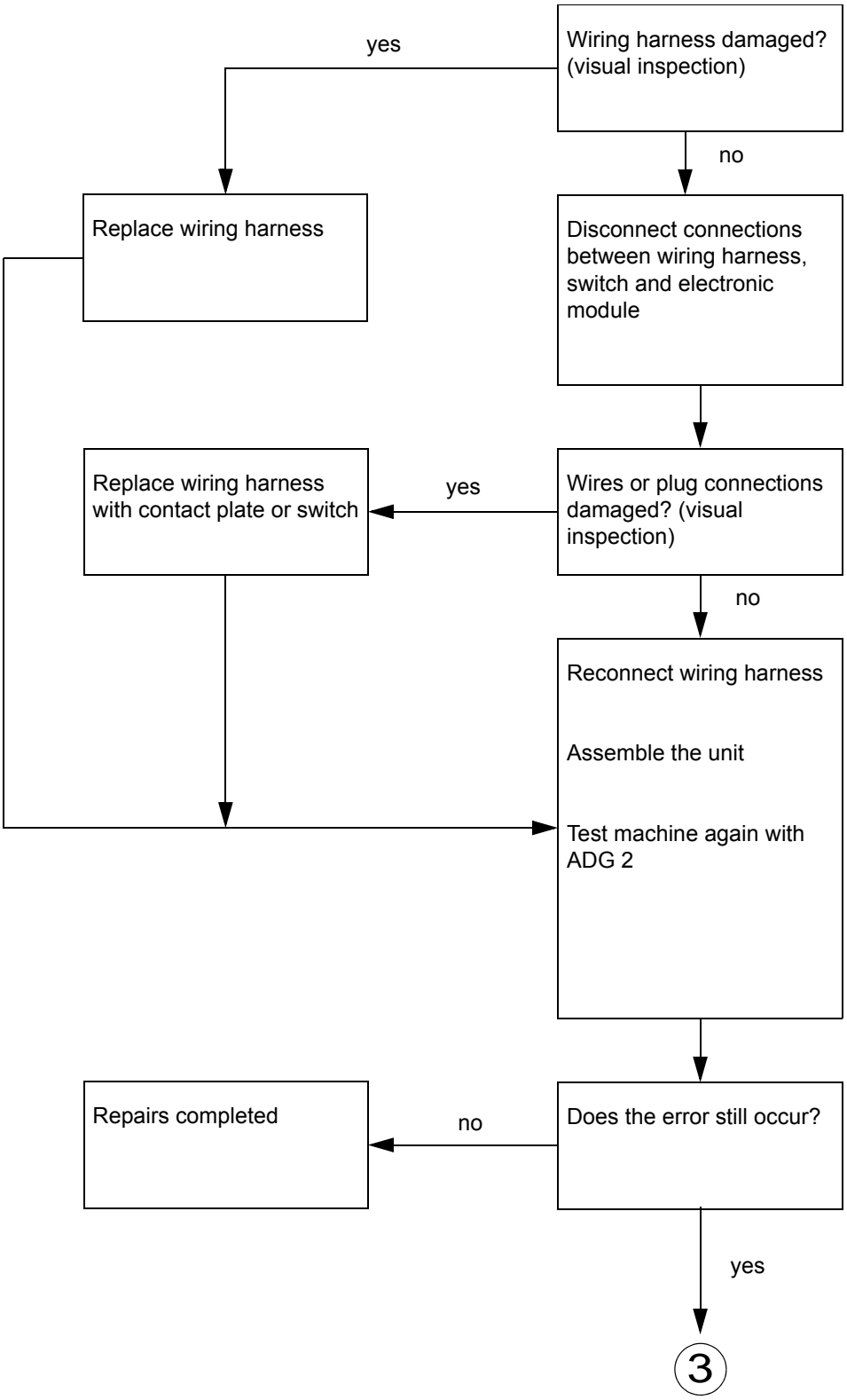


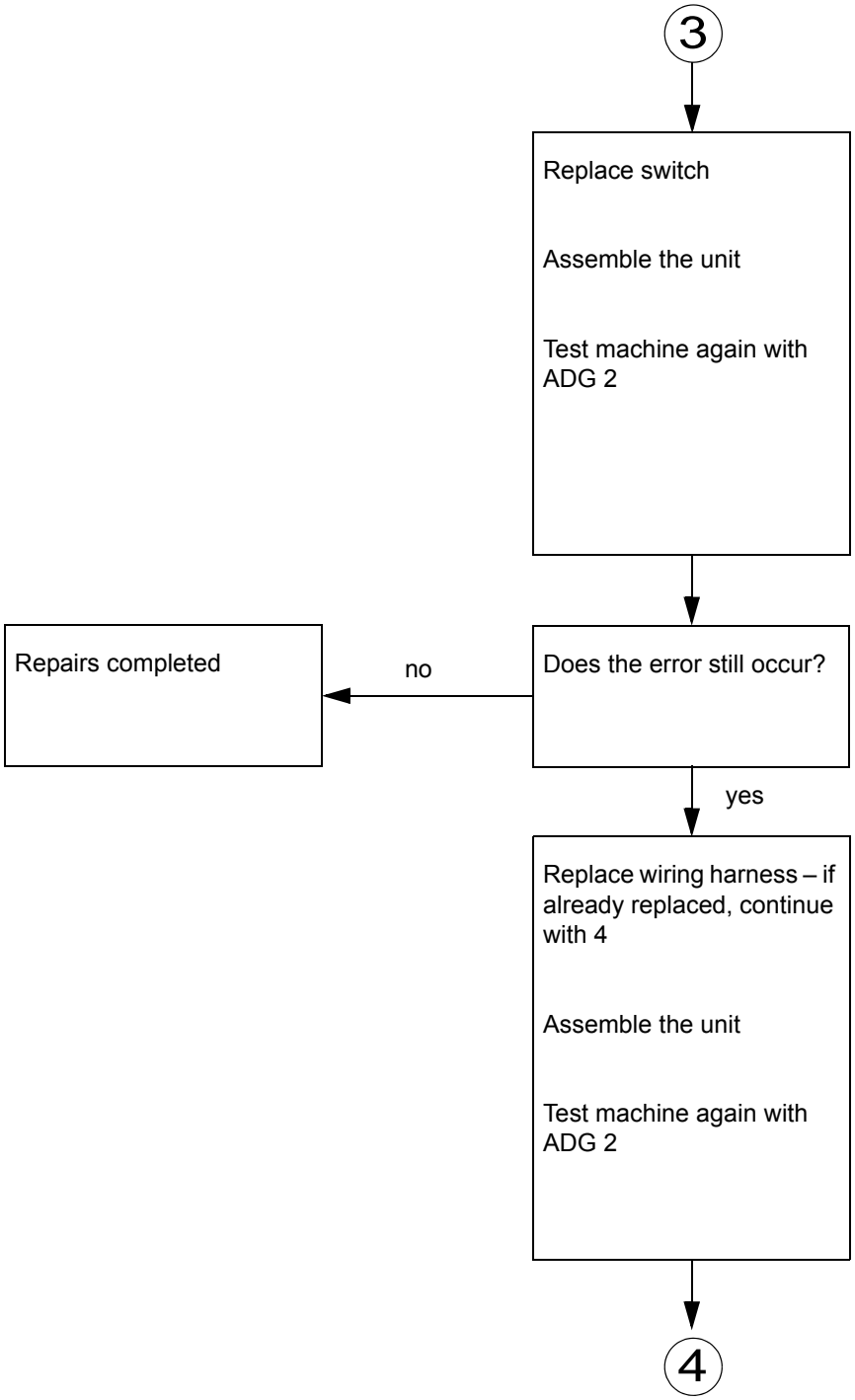
4.4 Flow chart / Troubleshooting – Error message "Wiring harness"

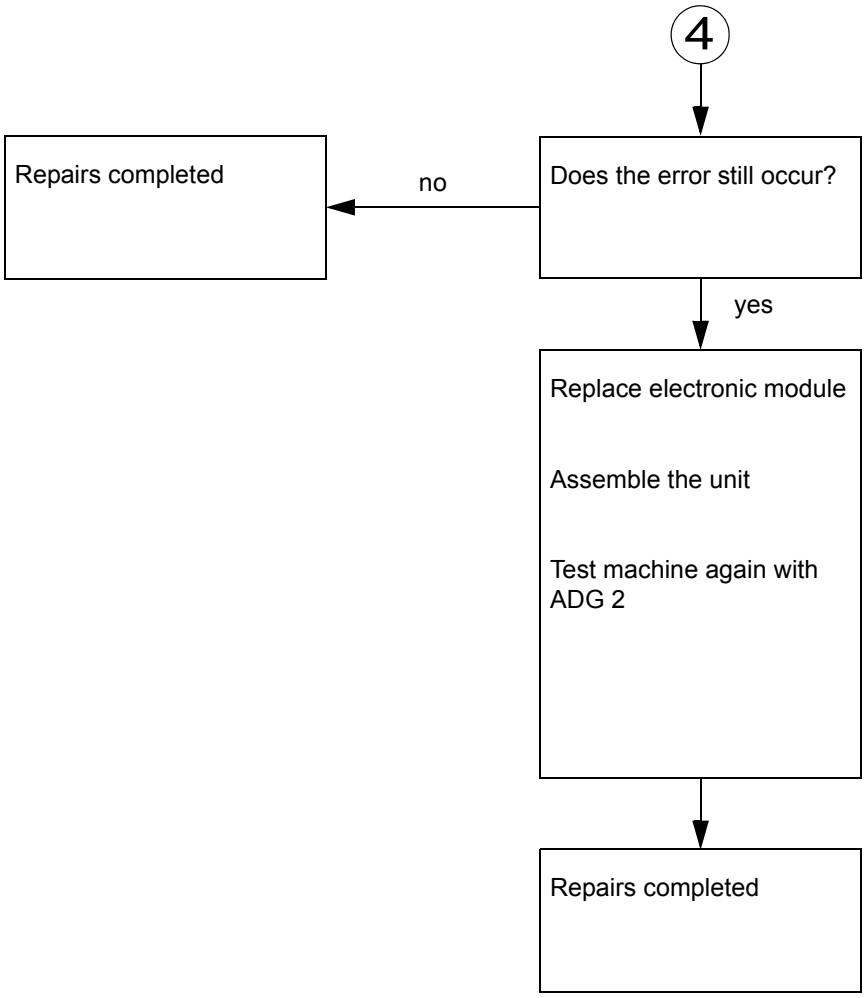



1
2
Replace wiring harness with contact plate
Assemble the unit
Test machine again with ADG 2
Does the error still occur?
no
Repairs completed
yes
Replace electronic module
Assemble the unit
Test machine again with ADG 2
Repairs completed

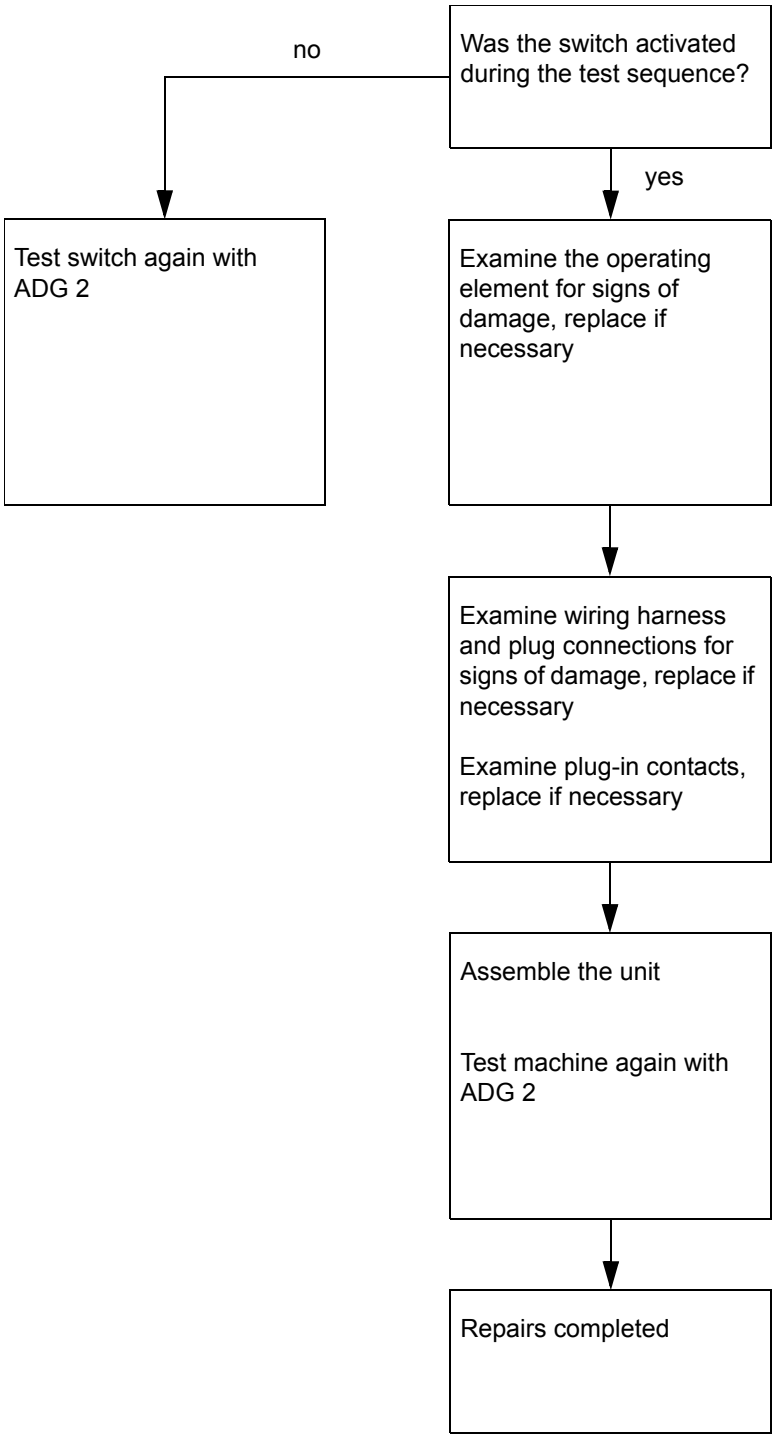
4.5 Flow chart / Troubleshooting – Error message "Wiring harness / switch"



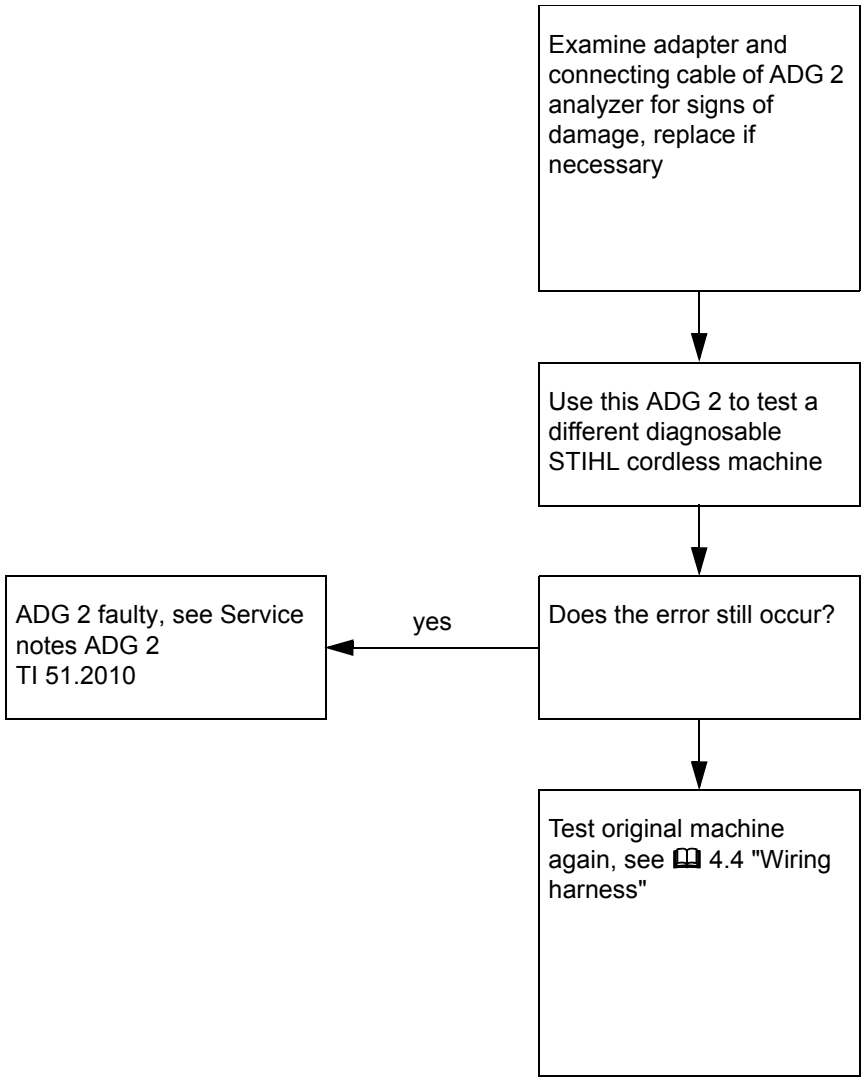

3
Replace switch
Assemble the unit
Test machine again with ADG 2
Does the error still occur?
no
Repairs completed
yes
Replace wiring harness – if already replaced, continue with 4
Assemble the unit
Test machine again with ADG 2
4


4
Does the error still occur?
no
Repairs completed
yes
Replace electronic module
Assemble the unit
Test machine again with ADG 2
Repairs completed

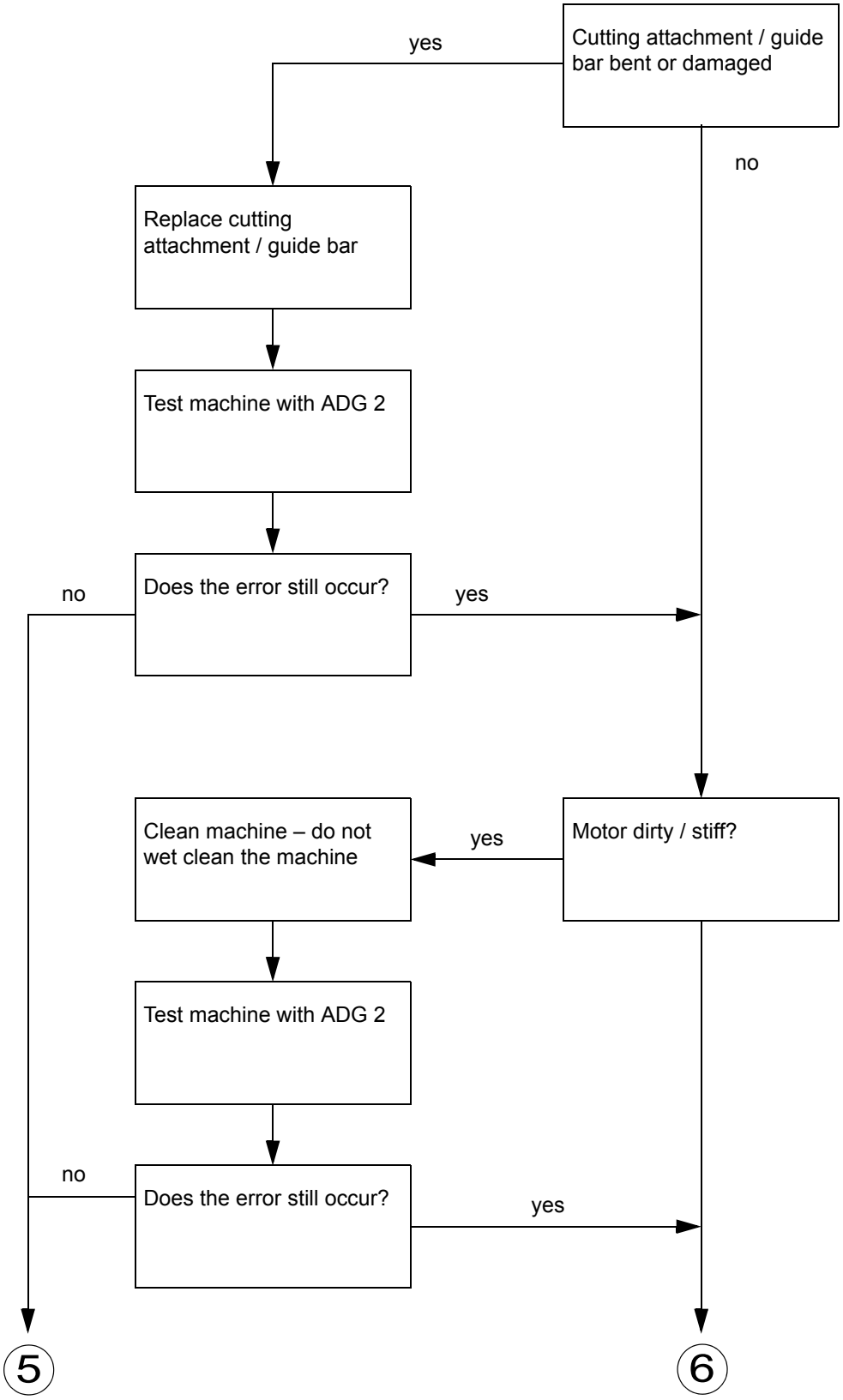
4.6 Flow chart / Troubleshooting – Error message "Switch"

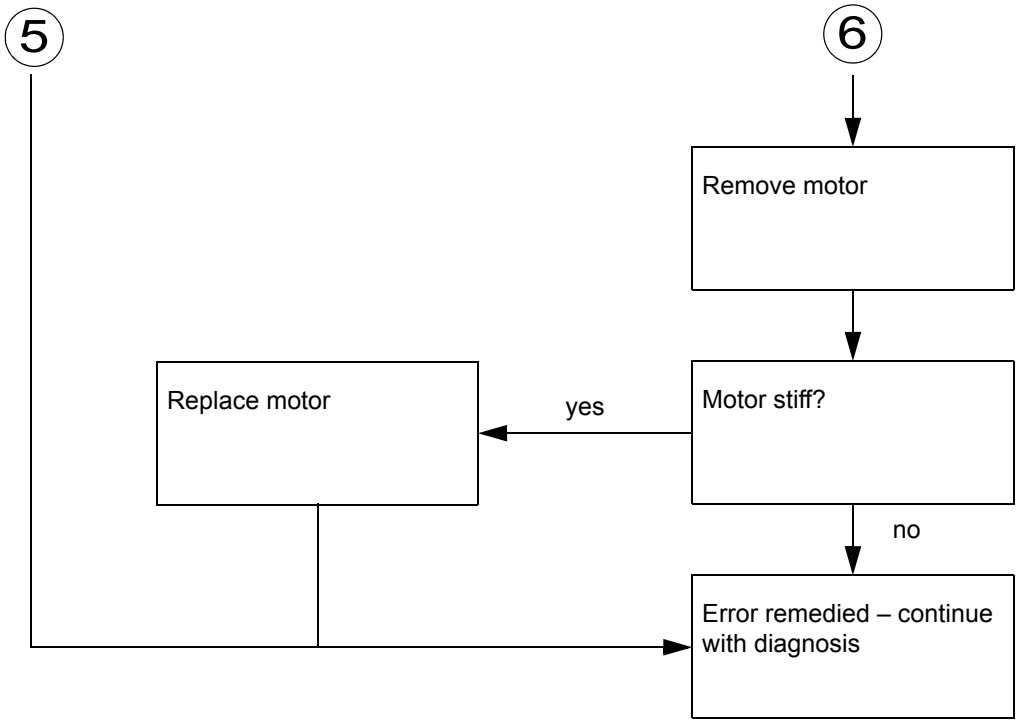


4.7 Flow chart / Troubleshooting – Error message "Short circuit"



4.8 Flow chart / Troubleshooting – Error message "Test base load"





Let Cuda Help You Cut Costs

As an independent STIHL Dealer, you know that productivity and time spent servicing equipment can mean a lot for your bottom line. With **Cuda's 2412 Top-Load Parts Washer**, your service team will stop manually cleaning parts, and start focusing on building your business.

PERFECT FOR CLEANING:

- Chain Saws
- Loppers, Saws and Shears
- Hedge Trimmers
- Edgers
- Augers and Drills

BLAST OFF:

- Dirt
- Grease
- Oil
- Carbon Stains
- Metal Shavings

CLEAN ANY SURFACE INCLUDING:

- Steel
- Aluminum
- Plastic
- Rubber

2412 Series
As seen in the STIHL training video.

"The Cuda Parts Washer is a great investment and time saver! No more washing parts the old fashion way. It is the first thing turned on in the morning and the last to be turned off. It's like having an assistant in the shop; it will clean your STIHL equipment like new, while freeing up your valuable time."

Nick Shank, "Dr. Chainsaw"

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Choose Your Payment Plan

Baker's Dozen Plan

13 Monthly Payments

- Payments are calculated by dividing the equipment cost by 12.
- Security deposit equal to one payment is due up front, then pay 12 regular monthly payments.
- Deposit may be surrendered to own the equipment at end of term.
- **No documentation fee. No application fee.**

Choose:

☐ **Option 1: CUDA 2412 PARTS WASHER 115/1 $5905**

$5905.00 /12 = $492.08 / mo.

Deposit up front: $492.08, then 12 monthly payments of $492.08

☐ **Option 2: CUDA 2412 PARTS WASHER 208 or 230 $6200**

$6200.00 /12 = $516.67 / mo.

Deposit up front: $516.67, then 12 monthly payments of $516.67.

Best Buy Plan

First and Last as Upfront Security Deposit

- Two-payment security deposit (first and last).
- Deposit may be surrendered to own the equipment at end of term.
- **No documentation fee. No application fee.**

Choose:

Option 1: CUDA 2412 115/1 PARTS WASHER $5905

	Term	Payment
☐	24 Months	$276/mo
☐	36 Months	$193/mo

Option 2: CUDA 2412 208 or 230 PARTS WASHER $6200

	Term	Payment
☐	24 Months	$290/mo
☐	36 Months	$203/mo

APPLICATION

BUSINESS LEGAL NAME		CONTACT NAME	
BUSINESS ADDRESS			
BUSINESS PHONE	EMAIL		
NATURE OF BUSINESS	YEARS OF CURRENT OWNERSHIP	STATE OF INCORPORATION	
OWNER NAME	SOCIAL SECURITY NUMBER	DOB	% OF OWNERSHIP
BUSINESS TYPE ☐ CORP ☐ LLC ☐ PARTNERSHIP ☐ PROPRIETORSHIP			
☐ I understand I may be contacted if additional information is needed.		CELL:	

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Authorized Signature

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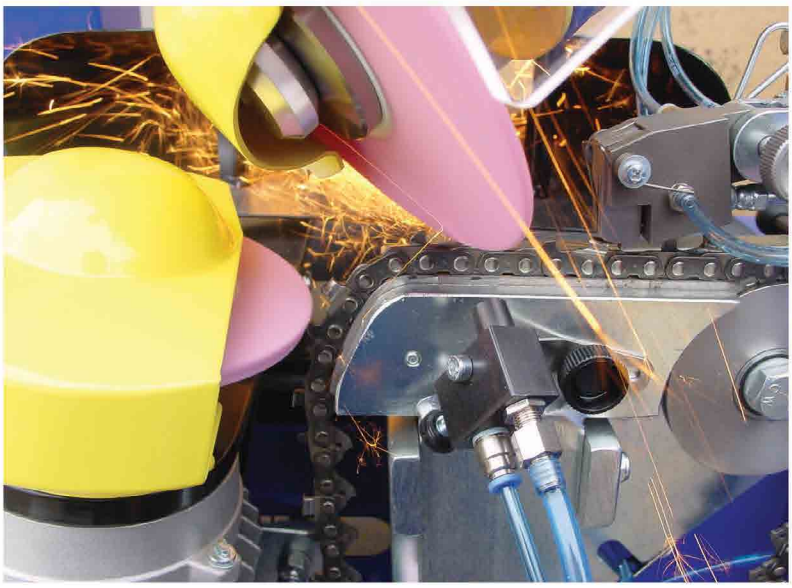
PRODUCTINFORMATION

Automatic Chain Sharpener SA6



The automatic chain sharpener SA6 sharpens all types of chains

Your advantages:

- Short set-up time (ca. 30 seconds)
- Sharpens teeth and rakers (depth gauge) in one cycle; separately adjustable
- Automatic tooth-detection; also for damaged or broken teeth
- Automatic sharpening process; no surveillance necessary
- Conversion kits: Very quick conversion to special chains possible
- Highly efficient and professional
- Competitive edge / Time saving

Technical data:

CHAINS	1/4“ to .404 (15 & 20 mm with optional attachments)
ANGLE	0° - 50°
LINK-THICKNESS	1,1 mm to 2,0 mm (3,0 mm with optional attachments)
POWER SUPPLY	110 V, 60 Hz (all other voltages possible)
AIR REQUIREMENTS	88 psi / R 1/4“ quick release
DIMENSIONS	650 x 650 x 1900 mm (D x W x H)
WEIGHT	ca. 200 kg (ca. 440 lbs)

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Heistardstr. 11 / D-53894 Mechernich-Holzheim (Germany)
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PROTECT YOUR STIHL®

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2. **<u>Do not use high-ethanol gasoline blends</u>** including E15, E20, E30, E50, and E85, as labeled at the pump.

3. Higher ethanol blends can cause **<u>uneven performance, engine damage, and will void your warranty.</u>**

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