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Tool Requirements



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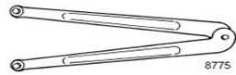


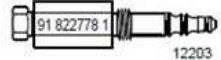
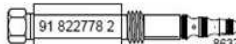
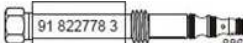

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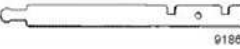


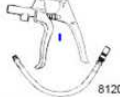
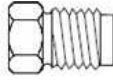



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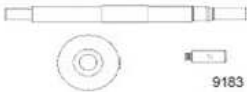



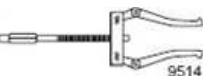




Every effort is made to produce sales and service literature which is current. This brochure should not be regarded as a precise guide to the latest specifications. This brochure is also not an offer for sales of any particular engine, boat, or accessories.










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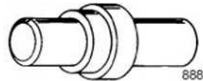

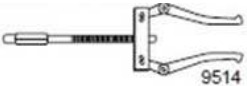
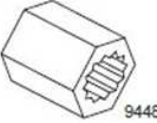
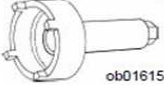


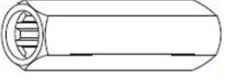

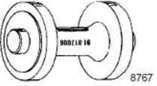
OUTBOARD & MERCUISER TOOLS


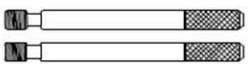




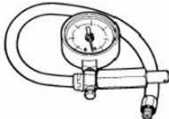
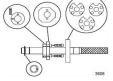
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
<i>OUTBOARD TOOLS FOR MID SECTIONS</i>									
74951	Spanner Wrench	1	X	X	X	X		Removes and installs trim cylinder end caps	
821709T	Trim Cylinder End Cap Tool	1	X	C	C	C		Allows easy removal of the trim cylinder end caps	
52915A6	Power Trim Test Gauge Kit	1				C		Tests circuit pressures for various trim pumps	
822778A1	Adapter Fitting	1				X		Measures the internal pressure in the up mode for a single cylinder trim system	
822778A2	Adapter Fitting	1				X		Install in place of the manual release valve to measure the internal pressure of PT pump in Up mode	
822778A3	Adapter Fitting	1				X		Install in place of the manual release valve to measure the internal pressure of PT pump in Down mode	
822778004	Power Trim Adapter Fitting	1				X		Replaces power trim manual release valve when testing power trim circuits	





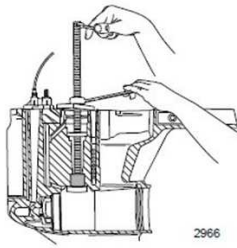
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
MCM TOOLS FOR TRANSOMS									
12037	Shift Cable Tool	1		X	X	X		Installs and removes shift cable into bell housing of the transom assembly	
12427T	Shift Cable Adjustment Tool	1	X	X	X	X		Attaches over the shift cable, and aids in proper shift cable adjustment at the shift plate	
17262A1	Shift Cable Anchor Adjustment Tool	1	X	X	X	X		Use to set the shift cable adjustments after shift cable installation. Includes 91-17262A1 & 91-17263	
34569A1	Slide Hammer	1		C	C	C		Aids in the removal of various engine components. Use with puller jaws 91-34570	
37299Q2	Grease Gun	1	X	C	C	C		Aids in the lubrication of key areas on the engine. Allows easy access to grease fittings	
38609	Plug	1		X	X	X		Aids in bleeding the in/down circuit on the remote trim pump	
43579	Tapered Insert Tool	1		X	X	X		Removes and installs the tapered insert retainer into the water inlet hose	
45497A1	Bellows Expander Tool	1	X	X	X	X		Aids in the removal and installation of the exhaust bellows	
46086A1	Puller Jaws Assembly	1		C	C	C		Removes bearing carrier and bearing races	

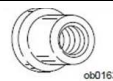



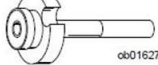
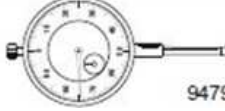
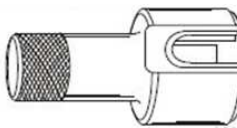


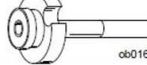
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
63616T	Puller Head	1		X	X	X		Removes the upper Swivel shaft on gimbal rings	
78310	Hinge Pin Tool	1		X	X	X		Removes and installs the hinge pins	
805475A1	Alignment Tool Assembly	1	X	X	X	X		Used to align the engine to the standard Bravo transom assembly for sterndrive installation	
816242	Puller Jaws	3		C	C	C		Use with either the two-prong or three-prong puller on all drives	
818162	Sleeve Installation Tool	1		X	X	X		Installs the aluminum sleeve into the U-joint bellows	
818169T	Sleeve Removal Tool	1		X	X	X		Removes the aluminum sleeve from the U-joint bellows	
85716	Puller Bolt	1		X	X	X		Removes bearing carrier and bearing races	
862546	Retention Sleeve Removal Tool	1		X	X	X		Removes the aluminum sleeve from the U-joint Bellows of all the Bravo Stern Drives, SN 0L999999 & below	
95639	Pipe Tap	1		X	X	X		Taps the bell housing for shift cable installation	
43578A1	Bushing/Bearing/Seal Driver	1			X	X		Installs the transom assembly bushings, bearings and seals	
805057A2	Bushing Installation Tool	1			X	X		Installs the upper shift shaft bushings into the transom assembly	


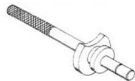

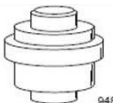
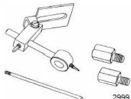


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
821709T	Trim Cylinder End Cap Tool	1			C	C		Allows easy removal of the trim cylinder end caps. Required if tilt limit spacers are to be installed or if the trim in limit spacer is to be removed	
38053A05	Power Steering Test Gauge Kit	1				X		Tests the power steering system pressure	
43693A02	Transom Cutout & Drill Fixture	1				X		Cuts and drills the boat transom for sterndrive installation	
52915A6	Power Trim Test Gauge Kit	1				C		Tests circuit pressures for various trim pumps	
806908A02	Power Steering Adapter Kit	1				X		Adapts power steering test gauge (91-38053A05) to test power steering control valves	
OUTBOARD TOOLS FOR DRIVES									
09019	Bearing Carrier Removal Tool	1		C	C	C			
13949	Oil Seal Driver	1		X	X	X		Installs oil seals into water pump base	
27780	Puller	1		X	X	X		Removes gears, bearings and races	
31107T	Shift Shaft Bushing Tool	1		C	C	C		Aids in the removal and installation of the shift shaft bushing	


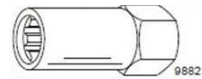
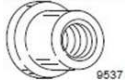






P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
31108T	Oil Seal Driver	1		C	C	C		Installs bearing carrier oil seals	
34569A1	Slide Hammer	1		C	C	C		Aids in the removal of various engine components. Use with puller jaws	
46086A1	Puller Jaws Assembly	1		C	C	C		Removes bearing carrier and bearing races. Use with Puller Bolt 91-85716	
56775T	Driveshaft Holding Tool	1		C	C	C		Provides a wrench surface to turn the driveshaft. Also used to hold driveshaft for pinion gear installation	
61069T	Bearing Carrier Retainer Nut Wrench	1		C	C	C		Installs and removes the bearing carrier retainer nuts	
61077T	Propeller Shaft/Driveshaft Adapter	1		C	C	C		Provides a wrench surface to turn the propeller shaft	
804762	Driveshaft Holding Tool	1		X	X	X		Holds the driveshaft while removing or installing the pinion gear nut	
804776A1	Driveshaft Holding Tool	1		X	X	X		Holds driveshaft while removing or torquing the pinion nut	
816242	Puller Jaws	3		C	C	C		Use with either the two prong or three prong puller on all drive units	
817006	Water Pump Base Seal Installer	1	X	X	X	X		Installs upper and lower water pump base seals	





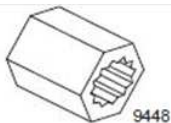
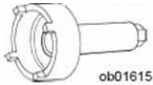



P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
817070	Driveshaft Holding Tool	1		X	X	X		Holds driveshaft while removing pinion nut	
821571A1	Water Pump Alignment Pins	2	X	C	C	C		Aligns the water pump during installation	
853996 14	Driveshaft Holding Tool	1		X	X	X		Holds the driveshaft while removing or installing the pinion gear nut	
877840A1	Driveshaft Holding Tool	1		X	X	X		Holds the driveshaft while removing the pinion nut	
889958T	Driveshaft Holding Tool	1		X	X	X		Holds the driveshaft during pinion nut removal on the Verado models	
8M0039009	Torpedo Ring Install	1		X	X	X	No picture available		
8M0046632	Bearing Carrier Cover	1		X	X	X	No picture available		
8M0050615	Shift Shaft Handle	1	X	X	X	X	No picture available		
8M0053505	Backlash Indicator	1		X	X	X		Aids in checking gear backlash	
FT8950	Leakage Tester Kit	1	X	X	X	X		Checks gear housing for leakage prior filling with gear lubricant. Also used to pressurize the oil injection system	
12349A05	Pinion Gear Locating Tool	1			C	C		Measures pinion gear height	


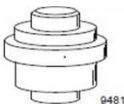

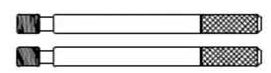


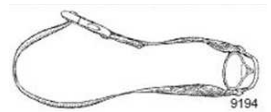
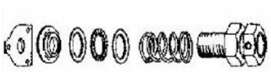


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
14309T02	Bearing Installation Puller	1			X	X		Installs the pinion bearing into the gearcase	
14311A04	Bearing Preload Tool	1			X	X		Simulates a load on the driveshaft for accurate pinion height and backlash measurements	
18605A2	Bearing Cup/Adapter Installation Tool	1			C	C		Installs the forward gear bearing race on a std gearcase. Presses the reverse gear bearing adapter in the gear housing on a counter rotation gearcase	
196601	Backlash Indicator	1			X	X		Measures gear backlash	
31229A7	Bearing Removal & Installation Kit	1			C	C		Installs and removes the bearings in all gearcases. Contains: 11-24156 Hex Nut 12-34961 Washer 91-15755T Bearing Carrier 91-29310 Plate 91-29610 Pilot Plate 91-30366T1 Mandrel 91-31229 Puller Shaft 91-32325T Driver Head 91-32336 Driver Needle Bearing 91-36379 Puller/Head Gear 91-36569T Driver Head 91-36571T Pilot Washer 91-37292 Roller Bearing 91-37311 Driver Head 91-37312 Driver Head 91-37323 Driver Head Rod 91-37324 Pilot Washer 91-38628T Puller/Driver Head 91-52393 Driver Needle Bearing 91-52394 Head Pull Rod	


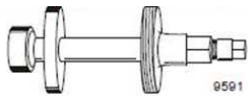

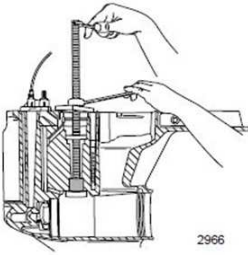

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
36569T	Driver Head	1			X	X	 ob01634	Used in pinion gear and bearing installation	
37241	Universal Puller Plate	1			X	X		Removes bearings from gears and the driveshaft	
43506T	Driveshaft Bearing Retainer Wrench	1			C	C		Removes and installs the threaded bearing retainer	
53459	Bakclash Indicator Road	1			C	C		Aids in checking gear backlash	
56048001	Pinion Gear Locating Tool	1			C	C	 ob01627	Measures pinion gear height	
58222A1	Dial Indicator	1			C	C	 9479	Used to obtain a variety of measurements including gear backlash, pinion gear location and TDC	
61067A04	Pinion Nut Wrench	1			X	X		Holds the pinion nut when removing the pinion gear and driveshaft. Use with Belleville washer and propeller nut to check the reverse gear lash	
61067T03	Pinion Nut Wrench	1			C	C		Holds the pinion nut when removing the pinion gear and driveshaft	
66274	Torque Wrench, lb.in.	1			C	C		Dial type torque wrench that sets torque from 9 to 150 lb.in., 3/8 in.drive	
74776T	Pinion Height Tool	1			X	X	 ob01627	Checks pinion gear height	







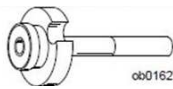


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
815850	Forward Gear Assembly Tube (CR)	1			C	C		Removes and installs the forward gear/bearing adapter assembly for counter rotation gearcases	
817008A2	Pinion Gear Locating Tool	1			X	X		Checks gearcase pinion gear height	
817057A02	Bearing Preload Tool Update Kit	1			X	X		Use to update Bearing Preload Tool (91-14311A1)	
817569T	Carrier Seal Driver	1			C	C		Removes and installs the bearing carrier seals. Installs seals in the driveshaft seal carrier	
83155	Dial Indicator Adapter	1			C	C		Attaches the dial indicator to the gearcase when checking backlash	
83165T	Bearing Puller Assembly	1			X	X		Removes bearings, races and bearing carriers	
89897	Dial Indicator Holding Tool	1			C	C		Secures the dial indicator to gear housing when checking backlash	
8M0036288	Pinion Nut Holder	1			X	X	No picture available		
8M0046360	Pinion Bearing Install	1			X	X	No picture available		
8M0046443	Pinion Height Tool	1			X	X	No picture available		
8M0052590	Driveshaft Bearing	1			X	X	No picture available		
8M0053153	Retaining Ring Install	1			X	X	No picture available		











P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
8M0053505	Backlash Indicator	1			C	C		Aids in checking gear backlash	
90094	Driveshaft Holding Tool	1			X	X		Assists in pinion gear installation	
92788T	Pinion Bearing Driver	1			X	X		Aids in the removal and installation of the pinion bearing	
13945	Bearing Installation Driver	1				X		Installs reverse gear needle bearing into prop shaft carrier	
895195T04	Backlash Preload Tool	1				X		Prevents forward gear movement when checking the forward gear backlash	
895218	Pinion Height Tool	1				X		Aids in determining the pinion gear height	
840393	Bearing Carrier Retainer Nut Wrench	1				X		Installs the bearing carrier retainer nut on heavy duty propeller shafts	
8M0046348	Pinion Bearing Removal	1				X	No picture available		
8M0053084	Bearing Carrier Guide	1				X	No picture available		
MCM TOOLS FOR DRIVES									
09010	Dual Propeller Shaft Nut Wrench	1	X	X	X	X			
09019	Bearing Carrier Removal Tool	1		C	C	C			


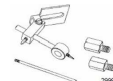







P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
17256	Bearing Retainer Wrench	1		X	X	X		Removes and installs the u-joint bearing retainer nut	
31107T	Shift Shaft Bushing Tool	1		C	C	C		Aids in the removal and installation of the shift shaft bushing on Alpha One excluding Gen II	
44110T	Seal Driver	1		X	X	X		Installs the oil seals in the water pump base on older Alpha product	
44357Q2	Flushing Device	1	X	C	C	C		Attaches to the water intakes, provides a freshwater connection when flushing the cooling system or operating the engine	
56775T	Driveshaft Holding Tool	1		C	C	C		Provides a wrench surface to turn the driveshaft. Also used to hold DS for pinion gear installation	
61069T	Bearing Carrier Retainer Nut Wrench	1		C	C	C		Installs and removes the bearing carrier retainer nuts	
61077T	Propeller Shaft/Driveshaft Adapter	1		C	C	C		Provides a wrench surface to turn the propeller shaft	
75104A7	Shift Shaft Lever	1		X	X	X		Assists in shifting the gear housing when the gear housing is separated from the driveshaft housing	
76675T1	Reference Electrode	1		X	X	X		Senses and electrical current in the water when testing the Mer-Cathode system. Use to check full potential	










P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
805358T	Outer Propeller Shaft Seal Driver	1		X	X	X		Installs the seals in the outer propeller shaft	
817569T	Carrier Seal Driver	1		C	C	C		Removes and installs the bearing carrier seals. Installs seals in the driveshaft seal carrier	
817570T	Upper Driveshaft Housing Seal Driver	1		X	X	X		Installs the seals in the upper driveshaft housing	
821571A1	Water Pump Alignment Pins	2	X	C	C	C		Aligns the water pump during installation	
849996T1	Flushing Kit	1	X	X	X	X		Use for flushing gearcases with low water inlets	
862219A1	Spanner Wrench for L-18 U-joint Bearing Retainer	1		X	X	X		Removes and installs the driveshaft bearing retainer	
881150Q1	Dual Water Pick-Up Flush Gear case Seal Kit	1	X	C	C	C		Blocks off the front water inlet holes on the dual water inlet gearcases	
14311A04	Driveshaft Bearing Preload Tool	1			C	C		Preloads the driveshaft bearing when checking pinion height and backlash	
17275A1	Bearing & Seal Installation Tool	1			X	X		Installs the shift shaft bushings and oil seal	
17301T1	Clutch Assembly Stand	1			X	X		Holds the clutch assemblies for servicing	








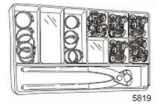

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
17302	Shift Handle Tool	1			X	X		Positions and removes the shift shaft	
18605A2	Bearing Cup & Adaptor Installation Tool	1			C	C		Installs the forward gear bearing on a std gearcase. Presses the reverse gear brg adapter into the gear hsg on a counter-rotating gearcase	
31108T	Oil Seal Driver	1			C	C		Installs bearing carrier oil seals	
31229A7	Bearing Removal & Installation Kit	1			C	C		Installs and removes the bearings in all gearcases. Contains: 11-24156 Hex Nut 12-34961 Washer 91-15755T Bearing Carrier 91-29310 Plate/91-29610 Pilot Plate 91-30366T1 Mandrel 91-31229 Puller Shaft 91-32325T Driver Head 91-32336 Driver Needle Bearing 91-36379 Puller/Head Gear 91-36569T Driver Head 91-36571T Pilot Washer 91-37292 Roller Bearing 91-37311 Driver Head 91-37312 Driver Head 91-37323 Driver Head Rod 91-37324 Pilot Washer 91-38628T Puller/Driver Head 91-52393 Driver Needle Bearing 91-52394 Head Pull Rod	
34379T	Bearing Cup Driver	1			X	X		Installs the driveshaft bearing cup into the gear housing	

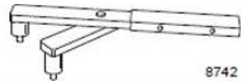


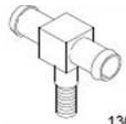



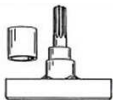


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
36577T	Bearing Cup Driver	1			X	X		Installs the forward gear bearing cup into the gear housing with a bearing cup outside diameter of 89mm (3.5 in.)	
42840T	Driveshaft Pinion Gear Shimming Tool	1			X	X		Assists in determining the driveshaft pinion gear shims	
43506T	Driveshaft Bearing Retainer Wrench	1			C	C		Removes and installs the threaded driveshaft bearing retainer	
43559T	Clamp Plate	1			X	X		Installs onto the gear housing while separated from the driveshaft hsg and holds a preload while checking the gear backlash and brg preload	
53459	Backlash Indicator Rod	1			C	C		Aids in checking gear backlash	
54048	Belleville Washer	1			X	X		Use with Pinion Nut Adapter (91-61067A3) and a propeller nut to check the reverse gear backlash	
56048001	Pinion Gear Locating Tool	1			C	C		Measures the pinion gear height	
58222A1	Dial Indicator	1			C	C		Measures distance, movement and runout. Used for drive system assembly and engine setup	
60523	Drive Gear Shimming Tool	1			X	X		Measures the U-joint pinion gear clearance	



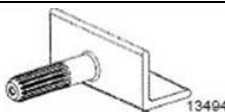
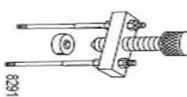




P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
60526T	Drive Gear Shimming Tool	1			X	X		Aids in measuring the upper driven gear clearance	
61067T03	Pinion Nut Wrench	1			C	C		Holds the pinion nut when removing the pinion gear and driveshaft	
66274	Torque Wrench, lb.in.	1			C	C		Dial-type torque wrench that sets torque from 9 to 150 lb.in., 3/8 in. drive	
805374	Bearing Carrier Tool	1			X	X		Aids to remove/install the outer prop shaft brg carrier on the Bravo 3. Also used with Brg Retainer Tool 91-805382T to remove prop shaft retainer nut	
8053741	Bearing Carrier Tool	1			X	X		Removes and installs the driveshaft bearing carrier on the Bravo Three	
805382T	Bearing Retainer Tool	1			X	X		Remove and installs the outer propeller shaft bearing carrier	
805462T	Backlash Indicator Rod	1			X	X		Aids in measuring the pinion height	
805481	Backlash Indicator rOD	1			X	X		Indicates the inner propeller shaft backlash	
805482	Backlash Indicator Rod	1			X	X		Indicates the outer propeller shaft backlash	
806192	Spline Backlash Tool	1			X	X		Measures the propeller-shaft-to-gear-spline backlash on V-blocks	











P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
815850	Forward Gear Assembly Tube (CR)	1			C	C		Removes and installs the forward gear and bearing adapter assembly for counter-rotation gearcases	
83155	Dial Indicator Adapter	1			C	C		Dial indicator holding fixture	
854377	Driven Gear Shimming Tool	1			X	X		Use to shim the driven gear on the Alpha One Gen II starting with SN 0L100009 & above. Can be identified by the letters A, B, C	
865080	Gearlash Flag 27/32	1			X	X		Aids in checking the gear lash for 27/32 tooth gears in the driveshaft housing	
865081	Gearlash Flag 27/29	1			X	X		Aids in checking the gear lash for 27/29 tooth gears in the driveshaft housing	
865082	Gearlash Flag 23/30	1			X	X		Aids in checking the gear lash for 23/30 tooth gears in the driveshaft housing	
865083	Stub Shaft for Bravo X Series	1			X	X		Replaces the U-joint assembly during the shimming process of the driveshaft housing	
865084	Stub Shaft for Standard Bravo	1			X	X		Replaces the U-joint assembly during the shimming process of the driveshaft housing	
865085	Clamp Block & Handle Tool	1			X	X		Used to move the stub shaft when reading the gear lash on the drive shaft housing	

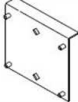




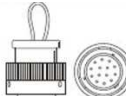


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
865086	Adapter Rod Tool	1			X	X		Holds the measuring tools for shimming the driveshaft housing	
865097T	Dial Indicator Holding Block	1			X	X		Secures the dial indicator tool in proper location when shimming the driveshaft housing	
865114T	Pinion Gear Shimming Tool	1			X	X		Measures the pinion (drive) gear depth of the driveshaft housing	
865115	Driven Gear Clamping Tool	1			X	X		Prevents driven gear movement when measuring the gear lash of the driveshaft housing	
865116	Gearlash Flag 16/19	1			X	X		Aids in checking the gear lash for 16/19 tooth gears in the driveshaft housing	
866107A01	Cross Bearing Tool	1			X	X		Aids in the removal of the cross bearing snap rings	
89897	Dial Indicator Holding Tool	1			C	C		Secures the dial indicator to gear housing when checking backlash	
8M0053505	Backlash Indicator Rod	1			C	C		Aids in checking gear backlash	
90244A1	Puller/Drive Assembly	1			X	X		Removes and installs the driveshaft housing bearings and sleeves. Assembly includes the following and can be purchased separately: 91-90777T1 Puller Jaws 91-90774 Puller Guide 91-90775 Puller Bolt 91-90244T Driver Guide 91-90773T Driver Head	

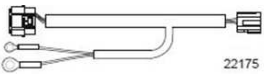








P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
09018	Bearing Carrier Removal Tool	1				X			
17257T	Bearing Carrier Retainer Tool	1				X		Loosens and tightens the bearing carrier retainer nut on Bravo Two	
38756	U-joint Adapter	1				X		Supports the yoke when disassembling the U-joint	
96512T	Gearcase Pinion Shimming Tool	1				X		Aids in measuring the gearcase pinion height	
OUTBOARD TOOLS FOR POWERHEADS									
29287	Compression Tester	1		X	X	X		Measures engine cylinder compression	
52344	Flywheel Holding Tool	1		X	X	X		Holds and/or turns the flywheel while making engine repairs, also used to torque the flywheel or the engine coupler	
79250A2	Water Pressure Gauge	1		X	X	X		Aids in checking the engine water pressure	
803146A04	Hose Clamp Tool Kit	1		X	X	X		Aids in the installation of high pressure (Oetiker®) hose clamps	
809905001	13mm Torque Adapter	1		X	X	X		Aids in the removal and installation of powerhead nuts, and torquing nuts to specification	






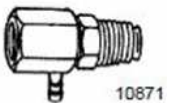

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
83163M	Flywheel Holder	1		X	X	X		Holds and/or turns the flywheel while making engine repairs, also used to torque the flywheel or the engine coupler	
83164M	Flywheel Puller/Lifting Ring	1	X	X	X	X		Removes flywheel from engine. Used for lifting powerhead/engine	
849154T1	Flywheel Puller	1	X	X	X	X		Removes the flywheel from the crankshaft	
849606	Schrader Valve Tee	1		X	X	X		Aids in checking fuel pressure when using a fuel pressure gauge with a screw on schrader valve connector	
881834A1	Dual fuel/Air Pressure Gauge Kit	1	X	X	X	X		Tests fuel and air pressure. The dual gauges allow the viewing of both pressures simultaneously	
883521	Direct Injector Removal Tool	1		X	X	X		Aids in removal of direct injectors from the fuel rail	
895343T02	Flywheel Puller/Lifting Ring	1	X	X	X	X		Removes flywheel from engine. Used for lifting powerhead/engine	
13662T1	Powerhead Stand	1			X	X		Used to secure and rotate the powerhead during disassembly and assembly	
24697	Piston Ring Expander	1			X	X		Expands piston rings for removal and installation	
30591T1	Powerhead Stand	1			X	X		Used to secure and rotate the powerhead during disassembly and assembly	

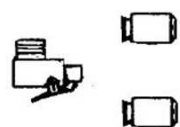

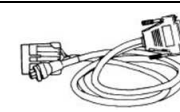
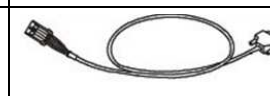

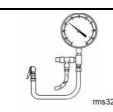
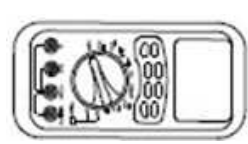
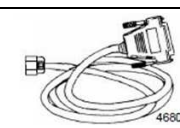
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
809494A1	Valve Spring Compressor	1			X	X		Removes and installs valve springs	
812549T	Powerhead Stand	1			X	X		Used to secure and rotate the powerhead during disassembly and assembly	
827001T1	Powerhead stand	1			X	X		Used to secure and rotate the powerhead during disassembly and assembly	
889431	Air Regulator Installation Tool	1			X	X		Compresses the air regulator spring to allow installation of assembly screws	
FT2997	Piston Ring Compressor	1			X	X		Compresses the piston rings to ease piston installation	
8M0042904	Rod Guide Dowel	1				X	No picture available		
8M0044311	Crankshaft Retainer	2				X	No picture available		
OUTBOARD TOOLS FOR INSTALLATION & MAINTENANCE									
37299Q2	Grease Gun	1	X	C	C	C		Aids in the lubrication of key areas on the engine. Allows easy access to grease fittings	
44357Q2	Flushing Device	1	X	C	C	C		Attaches to the water intakes, provides a fresh water connection when flushing the cooling system or operating the engine	
52024A1	Remote Starter Switch	1		C	C	C		Provides a remote starter button to crank the engine when performing service procedures	





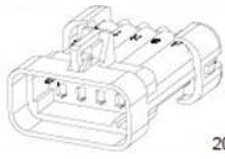





P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
802653Q02	Oil Filter Wrench	1		X	X	X		Assists in removal of oil filter	
86306A01	Adapter Bushing	1	X	X	X	X		Reduces thread size to install connector for checking cylinder block water pressure	
881150Q1	Dual Water Pickup Flush Gearcase Kit	1	X	C	C	C		Blocks off front water inlet holes on the dual water inlet gearcases	
888462A1	Date Cable Puller	1	X	X	X	X		Attaches to end of DTS data harness to aid in pulling harness through boat. Prevents damage to DTS data harness	
889277002	Oil Filter Wrench	1	X	X	X	X		Aids in the removal of the oil filter	
889277Q01	Oil Filter Wrench	1	X	X	X	X		Aids in the removal of the oil filter	
889277Q03	Oil Filter Wrench	1	X	X	X	X		Aids in the removal of the oil filter	
892866A01	Oil Drain Funnel	1	X	X	X	X		Diverts draining engine oil from contacting the anti-splash and anti-cavitation plates	
89772	Connector	1		X	X	X		Fitting for checking cylinder block water pressure	
904551	Lifting Eye	1	X	X	X	X		Threads into the flywheel to remove the powerhead assembly from the driveshaft housing, or to lift entire engine for removal/installation	

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
98234A2	Transom Drilling Fixture	1		X	X	X		Aids in engine installation by acting as a template for engine mounting holes	
OUTBOARD TOOLS FOR ELECTRICAL SECTIONS & DIAGNOSIS									
822560A5	Adapter Harness	1		X	X	X		Data link between engine and CDS or DDT on engines with a 2 pin diagnostic connection	
822560A7	Adapter Harness	1		X	X	X		Data link harness between the engine ECM and CDS	
822560A13	Adpater Harness	1		C	C	C		Data link harness between engine and CDS	
850439T1	Spark Gap Tester	1		X	X	X		Provides a visual indication of spark/coil efficiency	
889675A01	12 Volt Shunt Connector Tool	2		X	X	X		Connects to data harness allowing operation of the DTS system with the DDT or the CDS	
892647A01	DMT 2004 Digital Multimeter	1		C	C	C		Measures RPM on spark ignition engines, ohms, amperes, AC and DC voltages, records max's and min's simultaneously, and accurately reads in high RFI environments	
892663	Adapter Harness	1		C	C	C		Connects into a junction box or male adapter cable for Command Module configuration. Not for use with DDT	

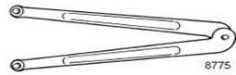


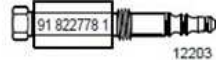
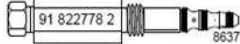
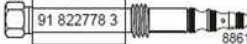

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
899150T01	Adapter Harness	1		X	X	X		Data link harness between the engine ECM and the CDS	
8M0046124	CDS G3 Program Kit	1		C	C	C			
99379	Timing Light	1		C	C	C		Allows a technician to check ignition timing	
MM46941xxx	MCDS Program Kit (xxx = language)	1		C	C	C		Monitors all electrical systems for proper function, diagnostics and calibration purposes - Order through SPX	
8026501	Clamp-On Current Probe	1			X	X		Measures the current output of battery charging systems or current draw of electric motors	
822560A14	Adapter Harness	1			X	X		Data link harness between the engine and the CDS	
890451	Direct Voltage Adapter	1			X	X		Use with a multimeter to check peak voltage on various engine components	
804063	Vaccum Tubing Clamp	4				X		Compresses a fuel or vacuum hose for troubleshooting the fuel system or synchronizing a multiple carburetor engine	
8098712	Vacuamate Carburetor Tuner	1				X		Allows the technician to balance the carburetors	




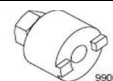


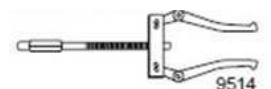
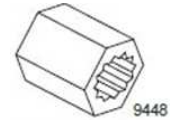
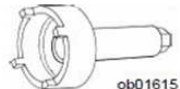
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
822560A10	Adapter Harness	1				X		Data link harness between the engine and the CDS. Use with 84-822560A7 only	
881824004	Stator Coil Harness	1				X		Aids in engine diagnostics by displaying basic engine fault codes	
881826	ECM (Coil Primary) Test Harness	1				X		Links between the ignition coil and the main engine harness to measure the peak voltage going from the ECM to the ignition coil	
881827	Throttle Position Sensor Test Harness	1				X		Links between the throttle position sensor and the main engine harness to check the throttle position sensor signal	
898254	Command Module Breakout Box	1				C		Connects between the command module and the command module harness. Test harness circuits and the input/output voltage at the command module	
MCM TOOLS FOR GAS ENGINES									
18078	Fuel Fitting Connector	1		X	X	X		Installed between the fuel line and the carburetor on 2-barrel MercCarb and 4-barrel Weber carbs	
52024A1	Remote Starter Switch	1		C	C	C		Provides a remote starter button to crank the engine when performing service procedures	



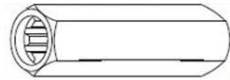

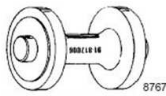

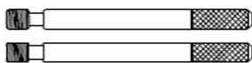



P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
803135	Fuel Pressure Gauge Kit	1		X	X	X		Allows an older fuel pressure gauge to attach either GM or Mercury MerCruiser Schrader valve	
806901	Fuel Pressure Tee	1		X	X	X		The Fuel Pressure Tee has a Schrader valve that can be used on MerCarb, Weber or TBI models	
822560A2	Adapter Harness	1		X	X	X		Harness connects to DDT Scan Tool Kit. Use with MEF11, MEF12 and MEF13 ECM models	
822560A13	Adapter Harness	1		C	C	C		Data link harness between engine and CDS	
830230T	Spark Air Gap Tool	1		X	X	X		Checks engine spark	
881833A03	Fuel Pressure Gauge Kit	1	X	X	X	X		Tests the fuel pump pressure. Can be used to relieve fuel pressure	
892647A01	DMT 2004 Digital Multimeter	1		C	C	C		Measures RPM on spark ignition engines, ohms, amperes, AC and DC voltages, records max's and min's simultaneously, and accurately reads in high RFI environments	
892663	Adapter Harness	1		C	C	C		Connects into a junction box or male to male adapter cable for command module configuration. Not for use with DDT	


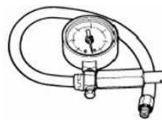
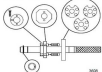


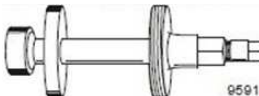
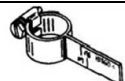
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
877399ITA	Pulley Removal Tool	1		X	X	X			
8M0046124	CDS G3 Program Kit	1	Rec.	C	C	C			
99379	Timing Light	1		C	C	C		Allows a technician to check ignition timing	
MM46941xxx	MCDS Program Kit (xxx = language)	1	Rec.	C	C	C		Monitors all electrical systems for proper function, diagnostics and calibration purposes - Order through SPX	
805747A2	Timing Jumper Plug	1			X	X		Locks the electronic spark trigger ignition system in base timing mode to set the initial ignition timing. Also used as a jumper lead for testing various circuits	
805918A1	Fuel Shut-Off Tool	1			X	X		Used to perform fuel system pressure tests	
86197	Idle Mixture Socket	1			X	X		Turns the idle mixture screws on Rochester 4-barrel carburetors	
866201	TKS Carburetor Mixture Adjusting Tool	1			X	X		Adjusts idle mixture screw on TKS MerCarb	
806794A02	Installation Jig	1				X		Locates the engine mounts when installing engine	
898254	Command Module Breakout Box	1				C		Connects in-series with connectors at the command module	

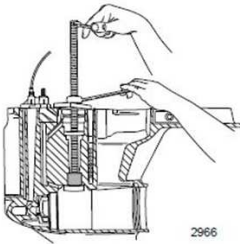

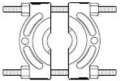


OUTBOARD TOOLS

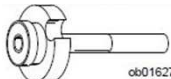
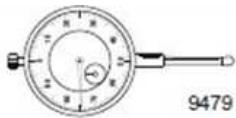
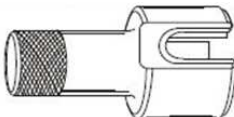


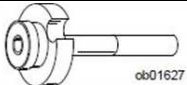

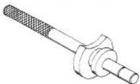
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
<i>OUTBOARD TOOLS FOR MID SECTIONS</i>									
74951	Spanner Wrench	1	X	X	X	X		Removes and installs trim cylinder end caps	
821709T	Trim Cylinder End Cap Tool	1	X	X	X	X		Allows easy removal of the trim cylinder end caps	
52915A6	Power Trim Test Gauge Kit	1				X		Tests circuit pressures for various trim pumps	
822778A1	Adapter Fitting	1				X		Measures the internal pressure in the up mode for a single cylinder trim system	
822778A2	Adapter Fitting	1				X		Install in place of the manual release valve to measure the internal pressure of PT pump in Up mode	
822778A3	Adapter Fitting	1				X		Install in place of the manual release valve to measure the internal pressure of PT pump in Down mode	
822778004	Power Trim Adapter Fitting	1				X		Replaces power trim manual release valve when testing power trim circuits	


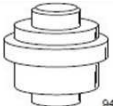
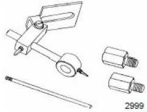



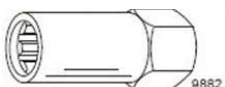
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
<i>OUTBOARD TOOLS FOR DRIVES</i>									
09019	Bearing Carrier Removal Tool	1		X	X	X			
13949	Oil Seal Driver	1		X	X	X		Installs oil seals into water pump base	
27780	Puller	1		X	X	X		Removes gears, bearings and races	
31107T	Shift Shaft Bushing Tool	1		X	X	X		Aids in the removal and installation of the shift shaft bushing	
31108T	Oil Seal Driver	1		X	X	X		Installs the bearing carrier oil seals	
35469A1	Slide Hammer	1		X	X	X		Aids in the removal of various engine components. Use with puller jaws	
46086A1	Puller Jaws Assembly	1		X	X	X		Removes bearing carrier and bearing races. Use with Puller Bolt 91-85716	
56775T	Driveshaft Holding Tool	1		X	X	X		Provides a wrench surface to turn the driveshaft. Also used to hold driveshaft for pinion gear installation	
61069T	Bearing Carrier Retainer Nut Wrench	1		X	X	X		Installs and removes the bearing carrier retainer nuts	






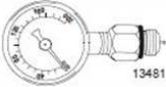

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
61077T	Propeller Shaft/Driveshaft Adapter	1		X	X	X		Provides a wrench surface to turn the propeller shaft	
804762	Driveshaft Holding Tool	1		X	X	X		Holds the driveshaft while removing or installing the pinion gear nut	
804776A1	Driveshaft Holding Tool	1		X	X	X		Holds driveshaft while removing or torquing the pinion nut	
816242	Puller Jaws	3		X	X	X		Use with either the two prong or three prong puller on all drive units	
817006	Water Pump Base Seal Installer	1	X	X	X	X		Installs upper and lower water pump base seals	
817070	Driveshaft Holding Tool	1		X	X	X		Holds driveshaft while removing pinion nut	
821571A1	Water Pump Alignment Pins	2	X	X	X	X		Aligns the water pump during installation	
853996 14	Driveshaft Holding Tool	1		X	X	X		Holds the driveshaft while removing or installing the pinion gear nut	
877840A1	Driveshaft Holding Tool	1		X	X	X		Holds the driveshaft while removing the pinion nut	
889958T	Driveshaft Holding Tool	1		X	X	X		Holds the driveshaft during pinion nut removal on the Verado models	


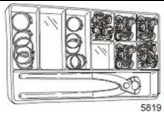

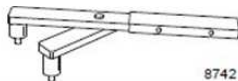
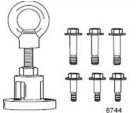

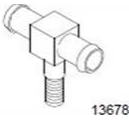


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
8M0039009	Torpedo Ring Install	1		X	X	X	No picture available		
8M0046632	Bearing Carrier Cover	1		X	X	X	No picture available		
8M0050615	Shift Shaft Handle	1	X	X	X	X	No picture available		
8M0053505	Backlash Indicator	1		X	X	X		Aids in checking the gear backlash	
FT8950	Leakage Tester Kit	1	X	X	X	X		Checks gear housing for leakage prior filling with gear lubricant. Also used to pressurize the oil injection system	
12349A05	Pinion Gear Locating Tool	1			X	X		Measures the pinion gear height	
14309T02	Bearing Installation Puller	1			X	X		Installs the pinion bearing into the gearcase	
14311A04	Bearing Preload Tool	1			X	X		Simulates a load on the driveshaft for accurate pinion height and backlash measurements	
18605A2	Bearing Cup/Adapter Installation Tool	1			X	X		Installs the forward gear bearing race on a std gearcase. Presses the reverse gear bearing adapter in the gear housing on a counter rotation gearcase	
196601	Backlash Indicator	1			X	X		Measures gear backlash	


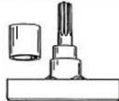




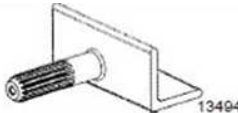
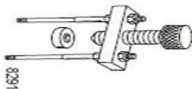

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
31229A7	Bearing Removal & Installation Kit	1			X	X		Installs and removes the bearings in all gearcases. Contains: 11-24156 Hex Nut 12-34961 Washer 91-15755T Bearing Carrier 91-29310 Plate 91-29610 Pilot Plate 91-30366T1 Mandrel 91-31229 Puller Shaft 91-32325T Driver Head 91-32336 Driver Needle Bearing 91-36379 Puller/Head Gear 91-36569T Driver Head 91-36571T Pilot Washer 91-37292 Roller Bearing 91-37311 Driver Head 91-37312 Driver Head 91-37323 Driver Head Rod 91-37324 Pilot Washer 91-38628T Puller/Driver Head 91-52393 Driver Needle Bearing 91-52394 Head Pull Rod	
36569T	Driver Head	1			X	X		Used in pinion gear and bearing installation	
37241	Universal Puller Plate	1			X	X		Removes bearings from gears and the driveshaft	
43506T	Driveshaft Bearing Retainer Wrench	1			X	X		Removes and installs the threaded bearing retainer	
53459	Bakclash Indicator Road	1			X	X		Aids in checking gear backlash	








P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
56048001	Pinion Gear Locating Tool	1			X	X	 ob01627	Measures pinion gear height	
58222A1	Dial Indicator	1			X	X	 9479	Used to obtain a variety of measurements including gear backlash, pinion gear location and TDC	
61067A04	Pinion Nut Wrench	1			X	X		Holds the pinion nut when removing the pinion gear and driveshaft. Use with Belleville washer and propeller nut to check the reverse gear lash	
61067T03	Pinion Nut Wrench	1			X	X		Holds the pinion nut when removing the pinion gear and driveshaft	
66274	Torque Wrench, lb.in.	1			X	X		Dial type torque wrench that sets torque from 9 to 150 lb.in., 3/8 in.drive	
74776T	Pinion Height Tool	1			X	X	 ob01627	Checks pinion gear height	
815850	Forward Gear Assembly Tube (CR)	1			X	X	 11577	Removes and installs the forward gear/bearing adapter assembly for counter rotation gearcases	
817008A2	Pinion Gear Locating Tool	1			X	X		Checks gearcase pinion gear height	







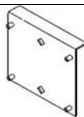

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
817057A02	Bearing Preload Tool Update Kit	1			X	X		Use to update Bearing Preload Tool (91-14311A1)	
817569T	Carrier Seal Driver	1			X	X		Removes and installs the bearing carrier seals. Installs seals in the driveshaft seal carrier	
83155	Dial Indicator Adapter	1			X	X		Attaches the dial indicator to the gearcase when checking backlash	
83165T	Bearing Puller Assembly	1			X	X		Removes bearings, races and bearing carriers	
89897	Dial Indicator Holding Tool	1			X	X		Secures the dial indicator to gear housing when checking backlash	
8M0036288	Pinion Nut Holder	1			X	X	No picture available		
8M0046360	Pinion Bearing Install	1			X	X	No picture available		
8M0046443	Pinion Height Tool	1			X	X	No picture available		
8M0052590	Driveshaft Bearing	1			X	X	No picture available		
8M0053153	Retaining Ring Install	1			X	X	No picture available		
8M0053505	Backlash Indicator	1			X	X		Aids in checking gear backlash	
90094	Driveshaft Holding Tool	1			X	X		Assists in pinion gear installation	

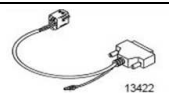


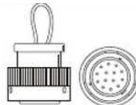


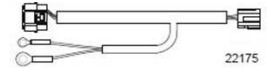


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
92788T	Pinion Bearing Driver	1			X	X		Aids in the removal and installation of the pinion bearing	
13945	Bearing Installation Driver	1				X		Installs reverse gear needle bearing into prop shaft carrier	
895195T04	Backlash Preload Tool	1				X		Prevents forward gear movement when checking the forward gear backlash	
895218	Pinion Height Tool	1				X		Aids in determining the pinion gear height	
840393	Bearing Carrier Retainer Nut Wrench	1				X		Installs the bearing carrier retainer nut on heavy duty propeller shafts	
8M0046348	Pinion Bearing Removal	1				X	No picture available		
8M0053084	Bearing Carrier Guide	1				X	No picture available		
OUTBOARD TOOLS FOR POWERHEADS									
29287	Compression Tester	1		X	X	X		Measures engine cylinder compression	
52344	Flywheel Holding Tool	1		X	X	X		Holds and/or turns the flywheel while making engine repairs, also used to torque the flywheel or the engine coupler	






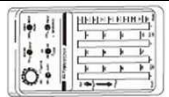


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
79250A2	Water Pressure Gauge	1		X	X	X		Aids in checking the engine water pressure	
803146A04	Hose Clamp Tool Kit	1		X	X	X		Aids in the installation of high pressure (Oetiker®) hose clamps	
809905001	13mm Torque Adapter	1		X	X	X		Aids in the removal and installation of powerhead nuts, and torquing nuts to specification	
83163M	Flywheel Holder	1		X	X	X		Holds and/or turns the flywheel while making engine repairs, also used to torque the flywheel or the engine coupler	
83164M	Flywheel Puller/Lifting Ring	1	X	X	X	X		Removes flywheel from engine. Used for lifting powerhead/engine	
849154T1	Flywheel Puller	1	X	X	X	X		Removes the flywheel from the crankshaft	
849606	Schrader Valve Tee	1		X	X	X		Aids in checking fuel pressure when using a fuel pressure gauge with a screw on schrader valve connector	
881834A1	Dual Fuel/Air Pressure Gauge Kit	1	X	X	X	X		Tests fuel and air pressure. The dual gauges allow the viewing of both pressures simultaneously	
883521	Direct Injector Removal Tool	1		X	X	X		Aids in removal of direct injectors from the fuel rail	


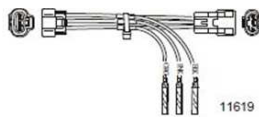

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
895343T02	Flywheel Puller/Lifting Ring	1	X	X	X	X		Removes flywheel from engine. Used for lifting powerhead/engine	
13662T1	Powerhead Stand	1			X	X		Used to secure and rotate the powerhead during disassembly and assembly	
24697	Piston Ring Expander	1			X	X		Expands piston rings for removal and installation	
30591T1	Powerhead Stand	1			X	X		Used to secure and rotate the powerhead during disassembly and assembly	
809494A1	Valve Spring Compressor	1			X	X		Removes and installs valve springs	
812549T	Powerhead Stand	1			X	X		Used to secure and rotate the powerhead during disassembly and assembly	
827001T1	Powerhead stand	1			X	X		Used to secure and rotate the powerhead during disassembly and assembly	
889431	Air Regulator Installation Tool	1			X	X		Compresses the air regulator spring to allow installation of assembly screws	
FT2997	Piston Ring Compressor	1			X	X		Compresses the piston rings to ease piston installation	

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
8M0042904	Rod Guide Dowel	1				X	No picture available		
8M0044311	Crankshaft Retainer	2				X	No picture available		
OUTBOARD TOOLS FOR INSTALLATION & MAINTENANCE									
37299Q2	Grease Gun	1	X	X	X	X		Aids in the lubrication of key areas on the engine. Allows easy access to grease fittings	
44357Q2	Flushing Device	1	X	X	X	X		Attaches to the water intakes, provides a fresh water connection when flushing the cooling system or operating the engine	
52024A1	Remote Starter Switch	1		X	X	X		Provides a remote starter button to crank the engine when performing service procedures	
802653Q02	Oil Filter Wrench	1		X	X	X		Assists in removal of oil filter	
86306A01	Adapter Bushing	1	X	X	X	X		Reduces thread size to install connector for checking cylinder block water pressure	
881150Q1	Dual Water Pickup Flush Gearcase Kit	1	X	X	X	X		Blocks off front water inlet holes on the dual water inlet gearcases	
888462A1	Date Cable Puller	1	X	X	X	X		Attaches to end of DTS data harness to aid in pulling harness through boat. Prevents damage to DTS data harness	






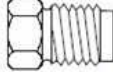

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
889277002	Oil Filter Wrench	1	X	X	X	X		Aids in the removal of the oil filter	
889277Q01	Oil Filter Wrench	1	X	X	X	X		Aids in the removal of the oil filter	
889277Q03	Oil Filter Wrench	1	X	X	X	X		Aids in the removal of the oil filter	
892866A01	Oil Drain Funnel	1	X	X	X	X	 4993	Diverts draining engine oil from contacting the anti-splash and anti-cavitation plates	
89772	Connector	1		X	X	X		Fitting for checking cylinder block water pressure	
904551	Lifting Eye	1	X	X	X	X	 2756	Threads into the flywheel to remove the powerhead assembly from the driveshaft housing, or to lift entire engine for removal/installation	
98234A2	Transom Drilling Fixture	1		X	X	X		Aids in engine installation by acting as a template for engine mounting holes	
OUTBOARD TOOLS FOR ELECTRICAL SECTIONS & DIAGNOSIS									
822560A5	Adapter Harness	1		X	X	X		Data link between engine and CDS or DDT on engines with a 2 pin diagnostic connection	


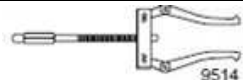


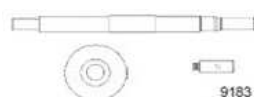



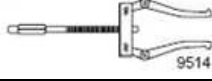


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
822560A7	Adapter Harness	1		X	X	X		Data link harness between the engine ECM and CDS	
822560A13	Adpater Harness	1		X	X	X		Data link harness between engine and CDS	
850439T1	Spark Gap Tester	1		X	X	X		Provides a visual indication of spark/coil efficiency	
889675A01	12 Volt Shunt Connector Tool	2		X	X	X		Connects to data harness allowing operation of the DTS system with the DDT or the CDS	
892647A01	DMT 2004 Digital Multimeter	1		X	X	X		Measures RPM on spark ingition engines, ohms, amperes, AC and DC voltages, records max's and min's simultaneously, and acci-rately reads in high RFI environments	
892663	Adapter Harness	1		X	X	X		Connects into a junction box or male adpater cable for Command Module configuration. Not for use with DDT	
899150T01	Adapter Harness	1		X	X	X		Data link harness between the engine ECM and the CDS	
8M0046124	CDS G3 Program Kit	1		X	X	X			
99379	Timing Light	1		X	X	X		Allows a technician to check ignition timing	










P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
MM46941xxx	MCDS Program Kit (xxx = language)	1		X	X	X		Monitors all electrical systems for proper function, diagnostics and calibration purposes - Order through SPX	
8026501	Clamp-On Current Probe	1			X	X		Measures the current output of battery charging systems or current draw of electric motors	
822560A14	Adapter Harness	1			X	X		Data link harness between the engine and the CDS	
890451	Direct Voltage Adapter	1			X	X		Use with a multimeter to check peak voltage on various engine components	
804063	Vacuum Tubing Clamp	4				X		Compresses a fuel or vacuum hose for troubleshooting the fuel system or synchronizing a multiple carburetor engine	
8098712	Vacuamate Carburetor Tuner	1				X		Allows the technician to balance the carburetors	
822560A10	Adapter Harness	1				X		Data link harness between the engine and the CDS. Use with 84-822560A7 only	
881824004	Stator Coil Harness	1				X		Aids in engine diagnostics by displaying basic engine fault codes	





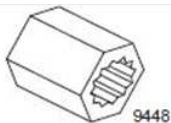
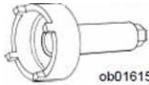



P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
881826	ECM (Coil Primary) Test Harness	1				X	 11620	Links between the ignition coil and the main engine harness to measure the peak voltage going from the ECM to the ignition coil	
881827	Throttle Position Sensor Test Harness	1				X	 11619	Links between the throttle position sensor and the main engine harness to check the throttle position sensor signal	
898254	Command Module Breakout Box	1				X	 26131	Connects between the command module and the command module harness. Test harness circuits and the input/output voltage at the command module	


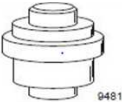

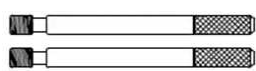





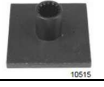

MERCUISER TOOLS

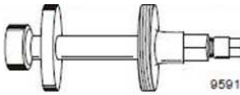
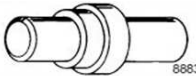
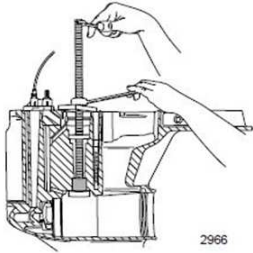

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
MCM TOOLS FOR TRANSOMS									
12037	Shift Cable Tool	1		X	X	X		Installs and removes shift cable into bell housing of the transom assembly	
12427T	Shift Cable Adjustment Tool	1	X	X	X	X		Attaches over the shift cable, and aids in proper shift cable adjustment at the shift plate	
17262A1	Shift Cable Anchor Adjustment Tool	1	X	X	X	X		Use to set the shift cable adjustments after shift cable installation. Includes 91-17262A1 & 91-17263	
34569A1	Slide Hammer	1		X	X	X		Aids in the removal of various engine components. Use with puller jaws 91-34570	
37299Q2	Grease Gun	1	X	X	X	X		Aids in the lubrication of key areas on the engine. Allows easy access to grease fittings	
38609	Plug	1		X	X	X		Aids in bleeding the in/down circuit on the remote trim pump	
43579	Tapered Insert Tool	1		X	X	X		Removes and installs the tapered insert retainer into the water inlet hose	



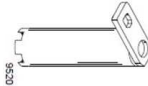



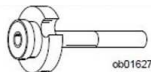


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
45497A1	Bellows Expander Tool	1	X	X	X	X		Aids in the removal and installation of the exhaust bellows	
46086A1	Puller Jaws Assembly	1		X	X	X		Removes bearing carrier and bearing races	
63616T	Puller Head	1		X	X	X		Removes the upper Swivel shaft on gimbal rings	
78310	Hinge Pin Tool	1		X	X	X		Removes and installs the hinge pins	
805475A1	Alignment Tool Assembly	1	X	X	X	X		Used to align the engine to the standard Bravo transom assembly for sterndrive installation	
816242	Puller Jaws	3		X	X	X		Use with either the two-prong or three-prong puller on all drives	
818162	Sleeve Installation Tool	1		X	X	X		Installs the aluminum sleeve into the U-joint bellows	
818169T	Sleeve Removal Tool	1		X	X	X		Removes the aluminum sleeve from the U-joint bellows	
85716	Puller Bolt	1		X	X	X		Removes bearing carrier and bearing races	
862546	Retention Sleeve Removal Tool	1		X	X	X		Removes the aluminum sleeve from the U-joint Bellows of all the Bravo Stern Drives, SN 0L999999 & below	
95639	Pipe Tap	1		X	X	X		Taps the bell housing for shift cable installation	











P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
43578A1	Bushing/Bearing/Seal Driver	1			X	X		Installs the transom assembly bushings, bearings and seals	
805057A2	Bushing Installation Tool	1			X	X		Installs the upper shift shaft bushings into the transom assembly	
821709T	Trim Cylinder End Cap Tool	1			X	X		Allows easy removal of the trim cylinder end caps. Required if tilt limit spacers are to be installed or if the trim in limit spacer is to be removed	
38053A05	Power Steering Test Gauge Kit	1				X		Tests the power steering system pressure	
43693A02	Transom Cutout & Drill Fixture	1				X		Cuts and drills the boat transom for sterndrive installation	
52915A6	Power Trim Test Gauge Kit	1				X		Tests circuit pressures for various trim pumps	
806908A02	Power Steering Adapter Kit	1				X		Adapts power steering test gauge (91-38053A05) to test power steering control valves	
MCM TOOLS FOR DRIVES									
09010	Dual Propeller Shaft Nut Wrench	1	X	X	X	X			
09019	Bearing Carrier Removal Tool	1		X	X	X			


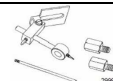







P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
17256	Bearing Retainer Wrench	1		X	X	X		Removes and installs the u-joint bearing retainer nut	
31107T	Shift Shaft Bushing Tool	1		X	X	X		Aids in the removal and installation of the shift shaft bushing on Alpha One excluding Gen II	
44110T	Seal Driver	1		X	X	X		Installs the oil seals in the water pump base on older Alpha product	
44357Q2	Flushing Device	1	X	X	X	X		Attaches to the water intakes, provides a freshwater connection when flushing the cooling system or operating the engine	
56775T	Driveshaft Holding Tool	1		X	X	X		Provides a wrench surface to turn the driveshaft. Also used to hold DS for pinion gear installation	
61069T	Bearing Carrier Retainer Nut Wrench	1		X	X	X		Installs and removes the bearing carrier retainer nuts	
61077T	Propeller Shaft/Driveshaft Adapter	1		X	X	X		Provides a wrench surface to turn the propeller shaft	
75104A7	Shift Shaft Lever	1		X	X	X		Assists in shifting the gear housing when the gear housing is separated from the driveshaft housing	
76675T1	Reference Electrode	1		X	X	X		Senses and electrical current in the water when testing the Mer-Cathode system. Use to check full potential	










P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
805358T	Outer Propeller Shaft Seal Driver	1		X	X	X		Installs the seals in the outer propeller shaft	
817569T	Carrier Seal Driver	1		X	X	X		Removes and installs the bearing carrier seals. Installs seals in the driveshaft seal carrier	
817570T	Upper Driveshaft Housing Seal Driver	1		X	X	X		Installs the seals in the upper driveshaft housing	
821571A1	Water Pump Alignment Pins	2	X	X	X	X		Aligns the water pump during installation	
849996T1	Flushing Kit	1	X	X	X	X		Use for flushing gearcases with low water inlets	
862219A1	Spanner Wrench for L-18 U-joint Bearing Retainer	1		X	X	X		Removes and installs the driveshaft bearing retainer	
881150Q1	Dual Water Pick-Up Flush Gear case Seal Kit	1	X	X	X	X		Blocks off the front water inlet holes on the dual water inlet gearcases	
14311A04	Driveshaft Bearing Preload Tool	1			X	X		Preloads the driveshaft bearing when checking pinion height and backlash	
17275A1	Bearing & Seal Installation Tool	1			X	X		Installs the shift shaft bushings and oil seal	
17301T1	Clutch Assembly Stand	1			X	X		Holds the clutch assemblies for servicing	
17302	Shift Handle Tool	1			X	X		Positions and removes the shift shaft	





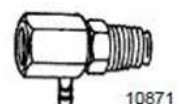

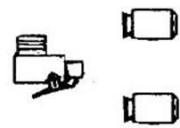

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
18605A2	Bearing Cup & Adaptor Installation Tool	1			X	X		Installs the forward gear bearing on a std gearcase. Presses the reverse gear brg adapter into the gear hsg on a counter-rotating gearcase	
31108T	Oil Seal Driver	1			X	X		Installs bearing carrier oil seals	
31229A7	Bearing Removal & Installation Kit	1			X	X		Installs and removes the bearings in all gearcases. Contains: 11-24156 Hex Nut 12-34961 Washer 91-15755T Bearing Carrier 91-29310 Plate/91-29610 Pilot Plate 91-30366T1 Mandrel 91-31229 Puller Shaft 91-32325T Driver Head 91-32336 Driver Needle Bearing 91-36379 Puller/Head Gear 91-36569T Driver Head 91-36571T Pilot Washer 91-37292 Roller Bearing 91-37311 Driver Head 91-37312 Driver Head 91-37323 Driver Head Rod 91-37324 Pilot Washer 91-38628T Puller/Driver Head 91-52393 Driver Needle Bearing 91-52394 Head Pull Rod	
34379T	Bearing Cup Driver	1			X	X		Installs the driveshaft bearing cup into the gear housing	

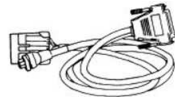



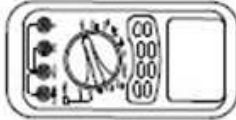




P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
36577T	Bearing Cup Driver	1			X	X	 10766	Installs the forward gear bearing cup into the gear housing with a bearing cup outside diameter of 89mm (3.5 in.)	
42840T	Driveshaft Pinion Gear Shimming Tool	1			X	X	 10586	Assists in determining the driveshaft pinion gear shims	
43506T	Driveshaft Bearing Retainer Wrench	1			X	X	 00356	Removes and installs the threaded driveshaft bearing retainer	
43559T	Clamp Plate	1			X	X		Installs onto the gear housing while separated from the driveshaft hsg and holds a preload while checking the gear backlash and brg preload	
53459	Backlash Indicator Rod	1			X	X		Aids in checking gear backlash	
54048	Belleville Washer	1			X	X	 10772	Use with Pinion Nut Adapter (91-61067A3) and a propeller nut to check the reverse gear backlash	
56048001	Pinion Gear Locating Tool	1			X	X	 0b01627	Measures the pinion gear height	
58222A1	Dial Indicator	1			X	X	 9479	Measures distance, movement and runout. Used for drive system assembly and engine setup	
60523	Drive Gear Shimming Tool	1			X	X	 10819	Measures the U-joint pinion gear clearance	


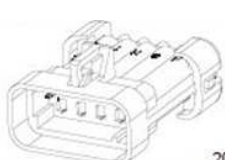
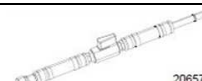
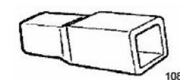



P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
60526T	Drive Gear Shimming Tool	1			X	X		Aids in measuring the upper driven gear clearance	
61067T03	Pinion Nut Wrench	1			X	X		Holds the pinion nut when removing the pinion gear and driveshaft	
66274	Torque Wrench, lb.in.	1			X	X		Dial-type torque wrench that sets torque from 9 to 150 lb.in., 3/8 in. drive	
805374	Bearing Carrier Tool	1			X	X		Aids to remove/install the outer prop shaft brg carrier on the Bravo 3. Also used with Brg Retainer Tool 91-805382T to remove prop shaft retainer nut	
8053741	Bearing Carrier Tool	1			X	X		Removes and installs the driveshaft bearing carrier on the Bravo Three	
805382T	Bearing Retainer Tool	1			X	X		Remove and installs the outer propeller shaft bearing carrier	
805462T	Backlash Indicator Rod	1			X	X		Aids in measuring the pinion height	
805481	Backlash Indicator rOD	1			X	X		Indicates the inner propeller shaft backlash	
805482	Backlash Indicator Rod	1			X	X		Indicates the outer propeller shaft backlash	
806192	Spline Backlash Tool	1			X	X		Measures the propeller-shaft-to-gear-spline backlash on V-blocks	

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
815850	Forward Gear Assembly Tube (CR)	1			C	C		Removes and installs the forward gear and bearing adapter assembly for counter-rotation gearcases	
83155	Dial Indicator Adapter	1			C	C		Dial indicator holding fixture	
854377	Driven Gear Shimming Tool	1			X	X		Use to shim the driven gear on the Alpha One Gen II starting with SN 0L100009 & above. Can be identified by the letters A, B, C	
865080	Gearlash Flag 27/32	1			X	X		Aids in checking the gear lash for 27/32 tooth gears in the driveshaft housing	
865081	Gearlash Flag 27/29	1			X	X		Aids in checking the gear lash for 27/29 tooth gears in the driveshaft housing	
865082	Gearlash Flag 23/30	1			X	X		Aids in checking the gear lash for 23/30 tooth gears in the driveshaft housing	
865083	Stub Shaft for Bravo X Series	1			X	X		Replaces the U-joint assembly during the shimming process of the driveshaft housing	
865084	Stub Shaft for Standard Bravo	1			X	X		Replaces the U-joint assembly during the shimming process of the driveshaft housing	
865085	Clamp Block & Handle Tool	1			X	X		Used to move the stub shaft when reading the gear lash on the drive shaft housing	







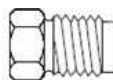
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
865086	Adapter Rod Tool	1			X	X		Holds the measuring tools for shimming the driveshaft housing	
865097T	Dial Indicator Holding Block	1			X	X		Secures the dial indicator tool in proper location when shimming the driveshaft housing	
865114T	Pinion Gear Shimming Tool	1			X	X		Measures the pinion (drive) gear depth of the driveshaft housing	
865115	Driven Gear Clamping Tool	1			X	X		Prevents driven gear movement when measuring the gear lash of the driveshaft housing	
865116	Gearlash Flag 16/19	1			X	X		Aids in checking the gear lash for 16/19 tooth gears in the driveshaft housing	
866107A01	Cross Bearing Tool	1			X	X		Aids in the removal of the cross bearing snap rings	
89897	Dial Indicator Holding Tool	1			X	X		Secures the dial indicator to gear housing when checking backlash	
8M0053505	Backlash Indicator Rod	1			X	X		Aids in checking gear backlash	
90244A1	Puller/Drive Assembly	1			X	X		Removes and installs the driveshaft housing bearings and sleeves. Assembly includes the following and can be purchased separately: 91-90777T1 Puller Jaws 91-90774 Puller Guide 91-90775 Puller Bolt 91-90244T Driver Guide 91-90773T Driver Head	



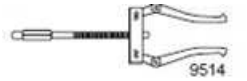


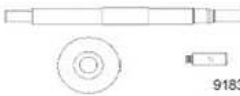



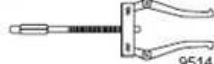

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
09018	Bearing Carrier Removal Tool	1				X			
17257T	Bearing Carrier Retainer Tool	1				X		Loosens and tightens the bearing carrier retainer nut on Bravo Two	
38756	U-joint Adapter	1				X		Supports the yoke when disassembling the U-joint	
96512T	Gearcase Pinion Shimming Tool	1				X		Aids in measuring the gearcase pinion height	
MCM TOOLS FOR GAS ENGINES									
18078	Fuel Fitting Connector	1		X	X	X		Installed between the fuel line and the carburetor on 2-barrel MercCarb and 4-barrel Weber carbs	
52024A1	Remote Starter Switch	1		X	X	X		Provides a remote starter button to crank the engine when performing service procedures	
803135	Fuel Pressure Gauge Kit	1		X	X	X		Allows an older fuel pressure gauge to attach either GM or Mercury MerCruiser Schrader valve	
806901	Fuel Pressure Tee	1		X	X	X		The Fuel Pressure Tee has a Schrader valve that can be used on MerCarb, Weber or TBI models	









P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
822560A2	Adapter Harness	1		X	X	X		Harness connects to DDT Scan Tool Kit. Use with MEFI1, MEFI2 and MEFI3 ECM models	
822560A13	Adapter Harness	1		X	X	X		Data link harness between engine and CDS	
830230T	Spark Air Gap Tool	1		X	X	X		Checks engine spark	
881833A03	Fuel Pressure Gauge Kit	1	X	X	X	X		Tests the fuel pump pressure. Can be used to relieve fuel pressure	
892647A01	DMT 2004 Digital Multimeter	1		X	X	X		Measures RPM on spark ignition engines, ohms, amperes, AC and DC voltages, records max's and min's simultaneously, and accurately reads in high RFI environments	
892663	Adapter Harness	1		X	X	X		Connects into a junction box or male to male adapter cable for command module configuration. Not for use with DDT	
877399ITA	Pulley Removal Tool	1		X	X	X			
8M0046124	CDS G3 Program Kit	1	Rec.	X	X	X			
99379	Timing Light	1		X	X	X		Allows a technician to check ignition timing	






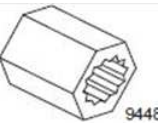
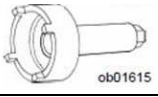


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
MM46941xxx	MCDS Program Kit (xxx = language)	1	Rec.	X	X	X		Monitors all electrical systems for proper function, diagnostics and calibration purposes - Order through SPX	
805747A2	Timing Jumper Plug	1			X	X		Locks the electronic spark trigger ignition system in base timing mode to set the initial ignition timing. Also used as a jumper lead for testing various circuits	
805918A1	Fuel Shut-Off Tool	1			X	X		Used to perform fuel system pressure tests	
86197	Idle Mixture Socket	1			X	X		Turns the idle mixture screws on Rochester 4-barrel carburetors	
866201	TKS Carburetor Mixture Adjusting Tool	1			X	X		Adjusts idle mixture screw on TKS MerCarb	
806794A02	Installation Jig	1				X		Locates the engine mounts when installing engine	
898254	Command Module Breakout Box	1				X		Connects in-series with connectors at the command module	



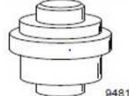

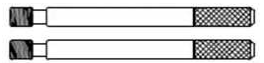





DIESEL TOOLS



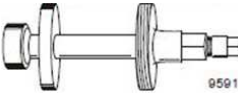
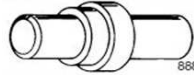
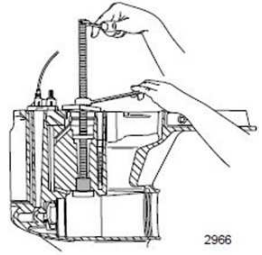
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
<i>DIESEL TOOLS FOR TRANSOMS</i>									
12037	Shift Cable Tool	1		X	X	X		Installs and removes shift cable into bell housing of the transom assembly	
12427T	Shift Cable Adjustment Tool	1	X	X	X	X		Attaches over the shift cable, and aids in proper shift cable adjustment at the shift plate	
17262A1	Shift Cable Anchor Adjustment Tool	1	X	X	X	X		Use to set the shift cable adjustments after shift cable installation. Includes 91-17262A1 & 91-17263	
34569A1	Slide Hammer	1		X	X	X		Aids in the removal of various engine components. Use with puller jaws 91-34570	
37240A1	Snap Ring Pliers	1		X	X	X		Removes the 4-1/2 in.dia. Snap ring used to hold the gimbal bearing in place	
37299Q2	Grease Gun	1	X	X	X	X		Aids in the lubrication of key areas on the engine. Allows easy access to grease fittings	
38609	Plug	1		X	X	X		Aids in bleeding the in/down circuit on the remote trim pump	




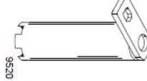



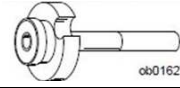


P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
43579	Tapered Insert Tool	1		X	X	X		Removes and installs the tapered insert retainer into the water inlet hose	
45497A1	Bellows Expander Tool	1	X	X	X	X		Aids in the removal and installation of the exhaust bellows	
46086A1	Puller Jaws Assembly	1		X	X	X		Removes bearing carrier and bearing races	
63616T	Puller Head	1		X	X	X		Removes the upper Swivel shaft on gimbal rings	
78310	Hinge Pin Tool	1		X	X	X		Removes and installs the hinge pins	
805475A1	Alignment Tool Assembly	1	X	X	X	X		Used to align the engine to the standard Bravo transom assembly for sterndrive installation	
816142	Puller Jaws	3		X	X	X		Use with either the two-prong or three-prong puller on all drives	
818162	Sleeve Installation Tool	1		X	X	X		Installs the aluminum sleeve into the U-joint bellows	
818169T	Sleeve Removal Tool	1		X	X	X		Removes the aluminum sleeve from the U-joint bellows	
85716	Puller Bolt	1		X	X	X		Removes bearing carrier and bearing races	
862546	Retention Sleeve Removal Tool	1		X	X	X		Removes the aluminum sleeve from the U-joint Bellows of all the Bravo Stern Drives, SN 0L999999 & below	











P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
95639	Pipe Tap	1		X	X	X		Taps the bell housing for shift cable installation	
09066	Fuel Rail Sensor Removal Tool	1			X	X	No picture available		
43578A1	Bushing/Bearing/Seal Driver	1			X	X		Installs the transom assembly bushings, bearings and seals	
805057A2	Bushing Installation Tool	1			X	X		Installs the upper shift shaft bushings into the transom assembly	
821709T	Trim Cylinder End Cap Tool	1			X	X		Allows easy removal of the trim cylinder end caps. Required if tilt limit spacers are to be installed or if the trim in limit spacer is to be removed	
38053A05	Power Steering Test Gauge Kit	1				X		Tests the power steering system pressure	
43693A02	Transom Cutout & Drill Fixture	1				X		Cuts and drills the boat transom for sterndrive installation	
52915A6	Power Trim Test Gauge Kit	1				X		Tests circuit pressures for various trim pumps	
806908A02	Power Steering Adapter Kit	1				X		Adapts power steering test gauge (91-38053A05) to test power steering control valves	


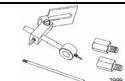







P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
<i>DIESEL TOOLS FOR DRIVES</i>									
09010	Dual Propeller Shaft Nut Wrench	1	X	X	X	X			
17256	Bearing Retainer Wrench	1		X	X	X		Removes and installs the u-joint bearing retainer nut	
31107T	Shift Shaft Bushing Tool	1		X	X	X		Aids in the removal and installation of the shift shaft bushing on Alpha One excluding Gen II	
44110T	Seal Driver	1		X	X	X		Installs the oil seals in the water pump base on older Alpha product	
44357Q2	Flushing Device	1	X	X	X	X		Attaches to the water intakes, provides a freshwater connection when flushing the cooling system or operating the engine	
56775T	Driveshaft Holding Tool	1		X	X	X		Provides a wrench surface to turn the driveshaft. Also used to hold DS for pinion gear installation	
61069T	Bearing Carrier Retainer Nut Wrench	1		X	X	X		Installs and removes the bearing carrier retainer nuts	
61077T	Propeller Shaft/Driveshaft Adapter	1		X	X	X		Provides a wrench surface to turn the propeller shaft	
75104A7	Shift Shaft Lever	1		X	X	X		Assists in shifting the gear housing when the gear housing is separated from the driveshaft housing	









P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
76675T1	Reference Electrode	1		X	X	X		Senses and electrical current in the water when testing the Mer-Cathode system. Use to check full potential	
805358T	Outer Propeller Shaft Seal Driver	1		X	X	X		Installs the seals in the outer propeller shaft	
817569T	Carrier Seal Driver	1		X	X	X		Removes and installs the bearing carrier seals. Installs seals in the driveshaft seal carrier	
817570T	Upper Driveshaft Housing Seal Driver	1		X	X	X		Installs the seals in the upper driveshaft housing	
821571A1	Water Pump Alignment Pins	2	X	X	X	X		Aligns the water pump during installation	
849996T1	Flushing Kit	1	X	X	X	X		Use for flushing gearcases with low water inlets	
862219A1	Spanner Wrench for L-18 U-joint Bearing Retainer	1		X	X	X		Removes and installs the driveshaft bearing retainer	
881150Q1	Dual Water Pick-Up Flush Gear case Seal Kit	1	X	X	X	X		Blocks off the front water inlet holes on the dual water inlet gearcases	
14311A04	Driveshaft Bearing Preload Tool	1			X	X		Preloads the driveshaft bearing when checking pinion height and backlash	
17275A1	Bearing & Seal Installation Tool	1			X	X		Installs the shift shaft bushings and oil seal	

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
17301T1	Clutch Assembly Stand	1			X	X		Holds the clutch assemblies for servicing	
17302	Shift Handle Tool	1			X	X		Positions and removes the shift shaft	
18605A2	Bearing Cup & Adaptor Installation Tool	1			X	X		Installs the forward gear bearing on a std gearcase. Presses the reverse gear brg adapter into the gear hsg on a counter-rotating gearcase	
31108T	Oil Seal Driver	1			X	X		Installs bearing carrier oil seals	
31229A7	Bearing Removal & Installation Kit	1			X	X		Installs and removes the bearings in all gearcases. Contains: 11-24156 Hex Nut 12-34961 Washer 91-15755T Bearing Carrier 91-29310 Plate/91-29610 Pilot Plate 91-30366T1 Mandrel 91-31229 Puller Shaft 91-32325T Driver Head 91-32336 Driver Needle Bearing 91-36379 Puller/Head Gear 91-36569T Driver Head 91-36571T Pilot Washer 91-37292 Roller Bearing 91-37311 Driver Head 91-37312 Driver Head 91-37323 Driver Head Rod 91-37324 Pilot Washer 91-38628T Puller/Driver Head 91-52393 Driver Needle Bearing 91-52394 Head Pull Rod	





P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
34379T	Bearing Cup Driver	1			X	X		Installs the driveshaft bearing cup into the gear housing	
36577T	Bearing Cup Driver	1			X	X		Installs the forward gear bearing cup into the gear housing with a bearing cup outside diameter of 89mm (3.5 in.)	
42840T	Driveshaft Pinion Gear Shimming Tool	1			X	X		Assists in determining the driveshaft pinion gear shims	
43506T	Driveshaft Bearing Retainer Wrench	1			X	X		Removes and installs the threaded driveshaft bearing retainer	
43559T	Clamp Plate	1			X	X		Installs onto the gear housing while separated from the driveshaft hsg and holds a preload while checking the gear backlash and brg preload	
53459	Backlash Indicator Rod	1			X	X		Aids in checking gear backlash	
54048	Belleville Washer	1			X	X		Use with Pinion Nut Adapter (91-61067A3) and a propeller nut to check the reverse gear backlash	
56048001	Pinion Gear Locating Tool	1			X	X		Measures the pinion gear height	
58222A1	Dial Indicator	1			X	X		Measures distance, movement and runout. Used for drive system assembly and engine setup	
60523	Drive Gear Shimming Tool	1			X	X		Measures the U-joint pinion gear clearance	



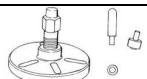
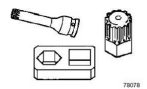
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
60526T	Drive Gear Shimming Tool	1			X	X		Aids in measuring the upper driven gear clearance	
61067T03	Pinion Nut Wrench	1			X	X		Holds the pinion nut when removing the pinion gear and driveshaft	
66274	Torque Wrench, lb.in.	1			X	X		Dial-type torque wrench that sets torque from 9 to 150 lb.in., 3/8 in. drive	
805374	Bearing Carrier Tool	1			X	X		Aids to remove/install the outer prop shaft brg carrier on the Bravo 3. Also used with Brg Retainer Tool 91-805382T to remove prop shaft retainer nut	
8053741	Bearing Carrier Tool	1			X	X		Removes and installs the driveshaft bearing carrier on the Bravo Three	
805382T	Bearing Retainer Tool	1			X	X		Remove and installs the outer propeller shaft bearing carrier	
805462T	Backlash Indicator Rod	1			X	X		Aids in measuring the pinion height	
805481	Backlash Indicator rOD	1			X	X		Indicates the inner propeller shaft backlash	
805482	Backlash Indicator Rod	1			X	X		Indicates the outer propeller shaft backlash	
806192	Spline Backlash Tool	1			X	X		Measures the propeller-shaft-to-gear-spline backlash on V-blocks	



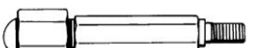

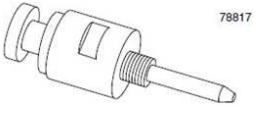
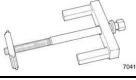

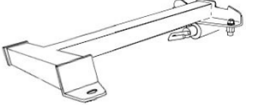
P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
815850	Forward Gear Assembly Tube (CR)	1			X	X		Removes and installs the forward gear and bearing adapter assembly for counter-rotation gearcases	
83155	Dial Indicator Adapter	1			X	X		Dial indicator holding fixture	
854377	Driven Gear Shimming Tool	1			X	X		Use to shim the driven gear on the Alpha One Gen II starting with SN 0L100009 & above. Can be identified by the letters A, B, C	
865080	Gearlash Flag 27/32	1			X	X		Aids in checking the gear lash for 27/32 tooth gears in the driveshaft housing	
865081	Gearlash Flag 27/29	1			X	X		Aids in checking the gear lash for 27/29 tooth gears in the driveshaft housing	
865082	Gearlash Flag 23/30	1			X	X		Aids in checking the gear lash for 23/30 tooth gears in the driveshaft housing	
865083	Stub Shaft for Bravo X Series	1			X	X		Replaces the U-joint assembly during the shimming process of the driveshaft housing	
865084	Stub Shaft for Standard Bravo	1			X	X		Replaces the U-joint assembly during the shimming process of the driveshaft housing	
865085	Clamp Block & Handle Tool	1			X	X		Used to move the stub shaft when reading the gear lash on the drive shaft housing	

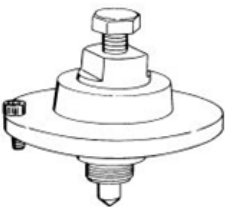
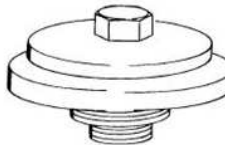

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
865086	Adapter Rod Tool	1			X	X		Holds the measuring tools for shimming the driveshaft housing	
865097T	Dial Indicator Holding Block	1			X	X		Secures the dial indicator tool in proper location when shimming the driveshaft housing	
865114T	Pinion Gear Shimming Tool	1			X	X		Measures the pinion (drive) gear depth of the driveshaft housing	
865115	Driven Gear Clamping Tool	1			X	X		Prevents driven gear movement when measuring the gear lash of the driveshaft housing	
865116	Gearlash Flag 16/19	1			X	X		Aids in checking the gear lash for 16/19 tooth gears in the driveshaft housing	
866108	Cross Bearing Mandrel	1			X	X		Aids in the removal and installation of the bearing caps on the cross bearings	
866109	Cross Bearing Press	1			X	X		Aids in the removal and installation of the bearing caps on the cross bearings	
89897	Dial Indicator Holding Tool	1			X	X		Secures the dial indicator to gear housing when checking backlash	

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
90244A1	Puller/Drive Assembly	1			X	X		Removes and installs the driveshaft housing bearings and sleeves. Assembly includes the following and can be purchased separately: 91-90777T1 Puller Jaws 91-90774 Puller Guide 91-90775 Puller Bolt 91-90244T Driver Guide 91-90773T Driver Head	
09018	Bearing Carrier Removal Tool	1				X			
17257T	Bearing Carrier Retainer Tool	1				X		Loosens and tightens the bearing carrier retainer nut on Bravo Two	
38756	U-joint Adapter	1				X		Supports the yoke when disassembling the U-joint	
96512T	Gearcase Pinion Shimming Tool	1				X		Aids in measuring the gearcase pinion height	
MCM TOOLS FOR DIESEL ENGINES									
801333506	Flywheel Holder	1		X	X	X		Holds the In-line diesel engine's flywheel during servicing to prevent flywheel movement	
822560A20	Adapter Harness	1		X	X	X			

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
892647A01	DMT 2004 Digital Multimeter	1		X	X	X		Measures RPM on spark ignition engines, ohms, amperes, AC & DC voltage, records max and min simultaneously, and accurately reads in high RFI environments	
892663	Adapter Harness	1		X	X	X	 	Connects into a junction box, or male to male adaptor cable for Command Module configuration. Not for use with DDT	
8M0046124	CDS G3 Program Kit	1		X	X	X			
8M0067548	TDC Locator *	1		X	X	X	No picture available		
8M0067551	Cable Connection Wrench Small *	1		X	X	X	No picture available		
8M0067552	Open Ring Spanner *	1		X	X	X	No picture available		
8M0067553	U/J Extension and Socket, 10 mm *	1		X	X	X	No picture available		
8M0067554	Open Ring Spanner, 32mm *	1		X	X	X	No picture available		
8M0067555	TDI Dealer Kit (Includes all the P/N's marked with *)	1		X	X	X	No picture available		
8M0067557	Pliers for Spring Clamps *	1		X	X	X	No picture available		

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
8M0067559	Adapter Dial Gauge *	1		X	X	X	No picture available		
8M0067560	Pin Wrench *	1		X	X	X	No picture available		
8M0067573	Camshaft Bar *	1		X	X	X	No picture available		
8M0067574	Allen Key, Long Reach *	1		X	X	X	No picture available		
8M0067575	Adjustment Ruler *	1		X	X	X	No picture available		
8M0067802	Retainer *	1		X	X	X	No picture available		
8M0067803	Counter-hold Tool *	1		X	X	X	No picture available		
8M0067917	Dial Gauge *	1		X	X	X	No picture available		
MM46941xxx	MCDS Program Kit (xxx = language)	1		X	X	X		Monitors all electrical systems for proper function, diagnostics and calibration purposes - Order through SPX	
24697	Piston Ring Expander	1			X	X		Installs and removes the piston rings	
801763590	Crankshaft Pulley Puller	1			X	X		Removes the pulley from the crankshaft	
806563A1	Cylinder Head Service Tool Kit	1			X	X		Use on In-line diesels D2.8L, D3.0L, D3.6L & D4.2L	

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
813810T	Compression Tester Adaptor	1			X	X		Adapts the compression tester to the VM mechanically injected diesel engines, except the D4.2L LD and 4.2 MS 200	
816997A1	SAE Dial Indicator Adaptor	1			X	X		Use with the SAE dial indicator to set the fuel injector pump timing	
854220	Dial Indicator Adaptor	1			X	X		Use with the metric dial indicator to set the fuel injector pump timing for the D-Tronic 2.8L and 4.2L engines only	
881737	Compression Tool Adaptor	1			X	X		Adapts the compression tester to the VM direct injection engines, including the D4.2L LD, 4.2 MS 200 and 4.2 MI 200	
889331	Timing Tool	1			X	X		Engages a special drilling in the flywheel through the flywheel housing, on models so equipped, to establish TDC of cylinder number 1	
898127	Cylinder TDC Tool	1			X	X	No picture available		
801333502	Cylinder Liner Puller	1				X		Removes the cylinder liners	
801333503	Crankshaft Gear Puller	1				X		Removes the crankshaft gear	
807903A1	Engine Mount Installation Tool	1				X		Locates the engine position for the In-line diesels (2.8L, 3.6L & 4.2L). Used for transoms with SN's 0M999999 and below	

P/N	Description	Qty	Boat Dealer	Level 3	Level 2	Level 1	Picture	Where Used	To order
817371	Injection Pump Gear Puller	1				X		Holds the injector pump gear while removing the injector pump. Also, removes the injector pump gear. Used with the 530D-TA, D183 Turbo AC with VM SN's 70811 or above, all 636D-TA (3.6L) and D219 turbo AC (3.0L) with VM SN 56945	
817372	Injection Pump Gear Puller	1				X		Holds the injector pump gear while removing the injector pump. Also, removes injector pump gear. Used with the D254 Turbo AC and D4.2L	
883852	Compression Tester Adapter	1				X		Adapts a compression tester to the D1.7L diesel engines	
8M0067564	Scan DI Tool	1				X	