

Section 9 - Level 3 Group 7

Cooling System Component Rebuild Tools Group

This section contains major component rebuild tools for the Cooling System Group family. See below for a general description of contents for this grouping of tools.

Tool Description	Page
Bearing and Bearing Race Driver	9-3
Bearing Tools	9-4
Impeller and Pulley Pullers	9-5
Mandrels and Drivers	9-6
Miscellaneous	9-9
Seal Drivers and Mandrels.....	9-10
Seal Expanders and Pilots.....	9-12
Thermostat Tools	9-13

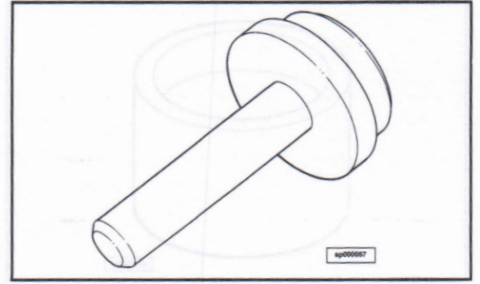
Bearing and Bearing Race Driver

3375693

Bearing Race Driver

Engine Series: K19

This tool is used to install the large bearing race in the Rockford Fan Drive.

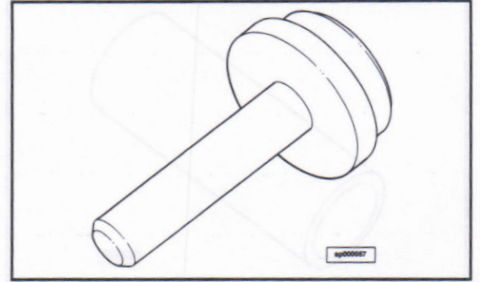


3375694

Bearing Race Driver

Engine Series: K19

This tool is used to install the small bearing race in the Rockford Fan Drive.

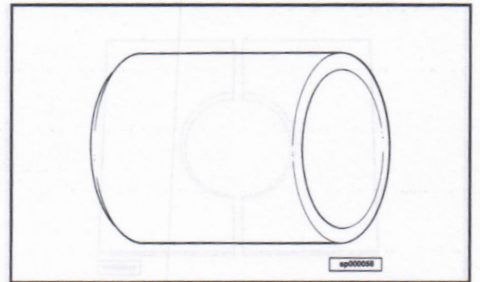


3375695

Bearing Driver

Engine Series: K19

This tool is required to assemble the large bearing into the Rockford Fan Drive.

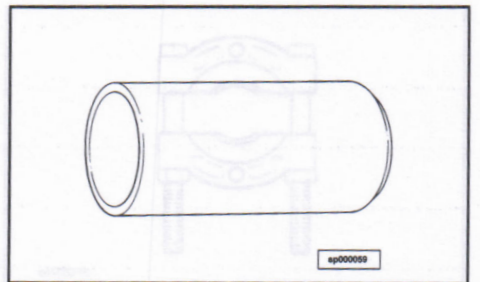


3375696

Bearing Driver

Engine Series: K19

This tool is used to install the small bearing in the Rockford Fan Drive.

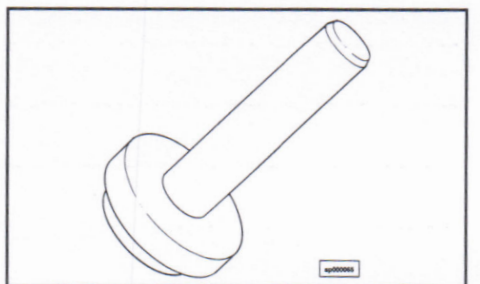


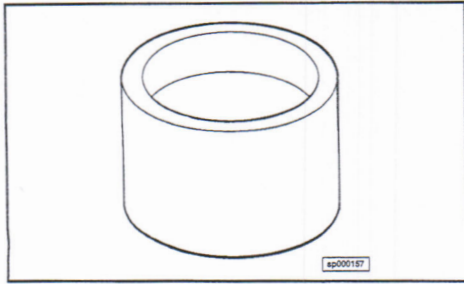
3375704

Bearing Race Driver

Engine Series: K19

This special mandrel is used to install the intermediate bearing race in the Rockford Fan Drive.

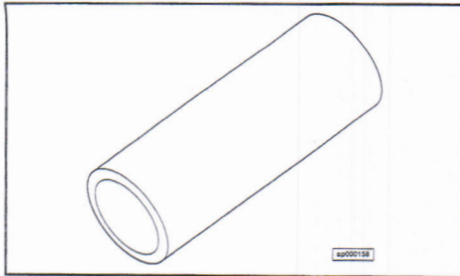




3376787
Fan Hub Bearing/Seal Driver

Engine Series: L10, M11

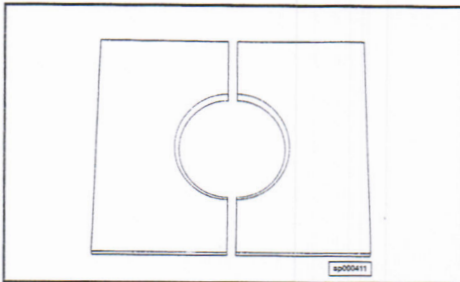
This tool is used to install the bearing and seal into the fan hub without damage to the bearing or seal.



3376788
Fan Hub Bearing Driver

Engine Series: L10, M11

This tool is used to install the fan hub bearing inner race onto the shaft.

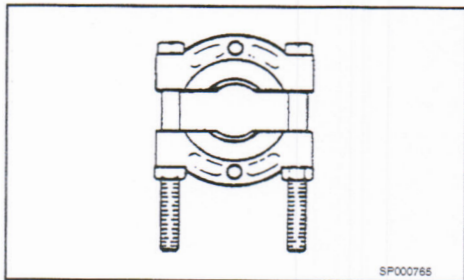


Bearing Tools

ST 1114
Bearing Disassembly Tool

Engine Series: NT

This 2 piece plate assembly is required to hold the bearing spacer while pressing the bearings from the shaft.



3162426
Bearing Puller Attachment

Engine Series: Onan

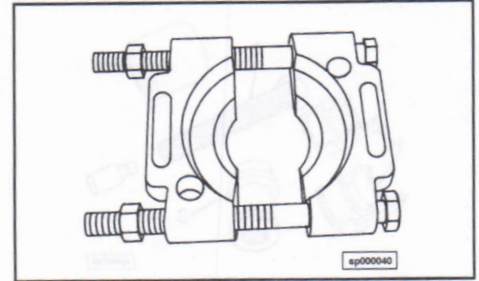
These versatile puller attachments are easily placed behind the part for secure gripping even when clearances are extremely limited.

Part No.	Description
3162426	Puller Attachment - 1/4-7/8 in.
3162427	Puller Attachment - 1/2-5 1/4 in.
3162428	Puller Attachment - 5/8-8 in.
3397870	Puller Attachment - 1/8-2 in.
3397871	Puller Attachment - 3/8-4 5/8 in.
3397872	Puller Attachment - 1/2-8 5/8 in.

3375326
Water Pump Bearing Separator

Engine Series: All

This tool is used when pressing the shaft through the bearings during the disassembly process.

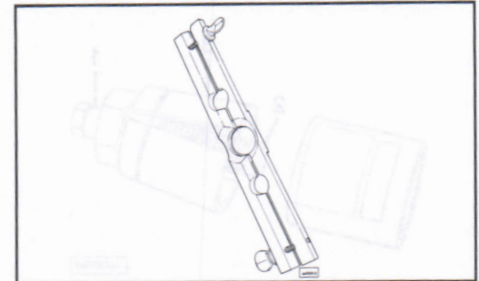


Impeller and Pulley Pullers

3375110
Impeller Puller

Engine Series: NH

This 2 piece spacer assembly is required when removing the plastic impellers when no puller holes are provided in the impeller. This tool becomes a bridge around the carbon seal so that the seal is not damaged during the disassembly process. This tool can also be used on cast iron impellers if desired. This tool applies to the older model water pumps used on NH series engines.

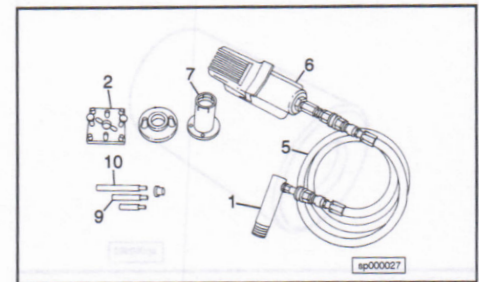


3375257
Water Pump Impeller Puller

Engine Series: NH, NT, V903, V28, K

This puller uses a small hydraulic ram and an air/hydraulic pump to remove the water pump impellers or pulleys. This kit contains several adapters for the different puller hole spacing of the impellers and/or pulleys.

NOTE: 3375265 Kit can be ordered if desired. It is the same as 3375257 less the 3375263 Air/Hydraulic Pump.

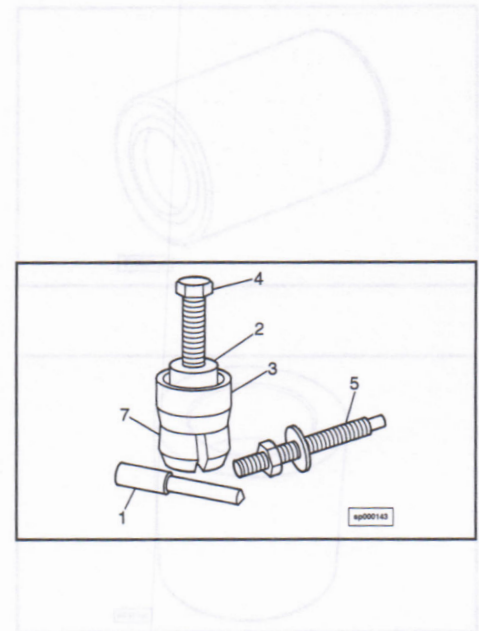


Ref. No.	Part No.	Description
1	3375258	Hydraulic Cylinder
2	3375259	Puller Plate
5	3375262	High Pressure Hose
6	3375263	Air/Hydraulic Pump
7	3375324	Puller Body
9	3375349	Puller Rod (2 3/4 in.)
10	3375350	Puller Rod (4 1/2 in.)

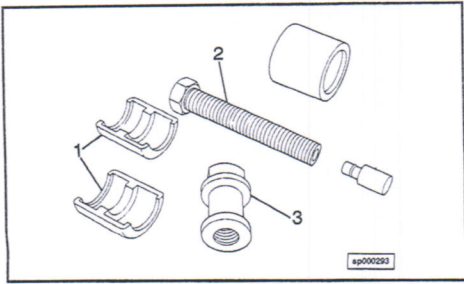
3376542
Water Pump Impeller Puller

Engine Series: V555, L10, M11

This tool is used to install or remove the 3026146 impeller from the shaft used in 3027783 Water Pump Assembly.



Ref. No.	Part No.	Description
2	3376544	Puller Sleeve
3	3376545	Compression Sleeve
4	3376546	Pressure Screw
5	3376547	Pusher Screw
7	3376549	Puller Halves
1	3377130	Puller Pin (V555)
1	3822296	Puller Pin (L10)

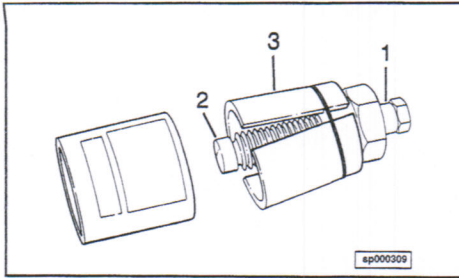


3823040
Water Pump Pulley/Impeller Puller

Engine Series: 88NT

This tool is used to remove the water pump pulley and impeller without damaging the impeller/pulley and shaft.

Ref. No.	Part No.	Description
1	3823141	Puller Jaw
2	3823142	Forcing Screw
3	3823143	Puller Nut

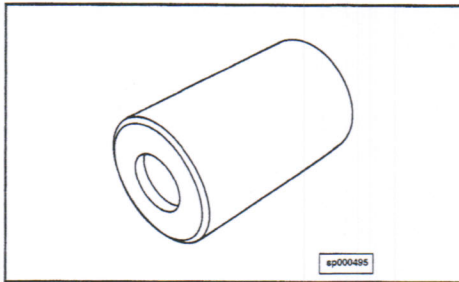


3823288
Water Pump Pulley Puller

Engine Series: L10, M11

This split jaw puller is used to remove the water pump pulley without damaging the pulley or the shaft.

Ref. No.	Part No.	Description
1	ST 1249-5	Puller Bolt
2	ST 1249-4	Bolt Center
3	3823289	Puller Jaw

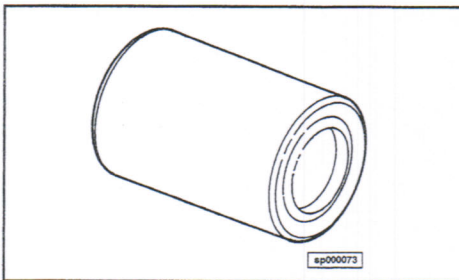


Mandrels and Drivers

ST 657
Water Pump Bearing Mandrel

Engine Series: C & J, NH, NT

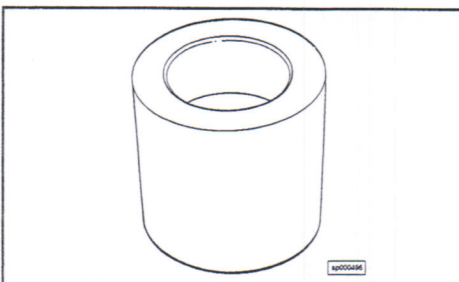
This bearing mandrel is used to assemble water pump outer bearings having an approximate diameter of 1 7/8 inch. This tool is used to press both bearings on the shaft and the bearing/shaft assembly into the pump body.



ST 658
Water Pump Bearing Mandrel

Engine Series: K19, K38, K50, NH, NT, V378, V555, V903, V504, L10, M11

This bearing mandrel is used to assemble the bearings onto the shaft of water pumps having bearing outside diameter of approximately 2 7/16 inch. This tool presses both the bearings onto the shaft and the bearing/shaft assembly into the pump body.



ST 659
Carbon Seal Driver

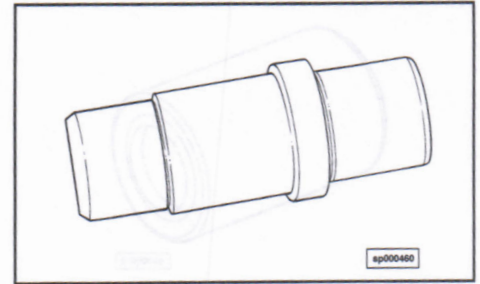
Engine Series: V28

This special driver is used to press the carbon face seal into the water pump body without damage to the seal.

ST 1314
Water Pump Bushing Mandrel

Engine Series: K19

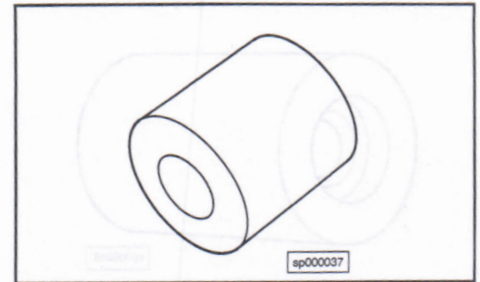
This mandrel is used to install or remove the water pump bushing in the front drive support.



3375318
Water Pump Bearing Mandrel

Engine Series: K19, K38, NT, V28, V903

This mandrel provides a method for installing the front water pump bearings for NTA, V903, K19 and K38 series engines as well as the front and rear bearings for V28 series water pumps.



3375697
Wear Sleeve Driver

Engine Series: K19

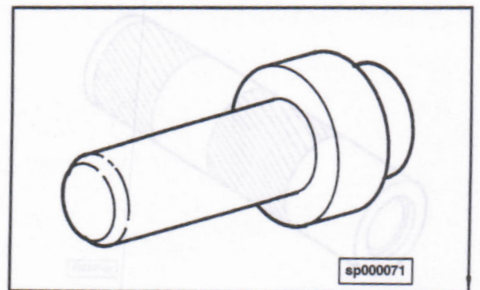
This tool is used to install the wear sleeve onto the fan mounting hub for the Rockford Fan Drive.



3375770
Wear Sleeve Driver

Engine Series: V28

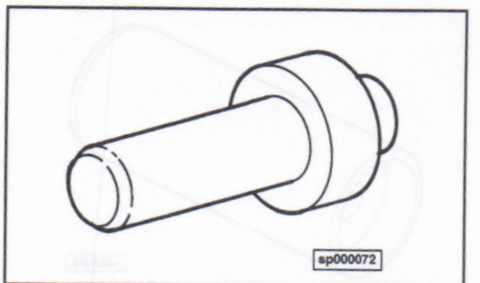
This driver is used to install a wear sleeve onto the pulley for the idler type water pump.

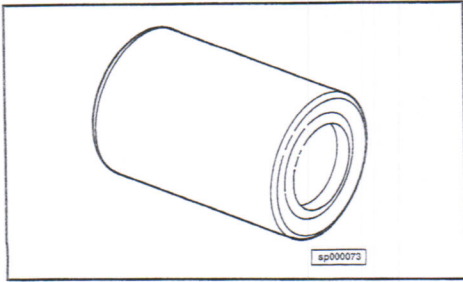


3375771
Bearing/Snap Ring Installer

Engine Series: V28

This tool installs the outer bearing race and the large snap ring in the water pump body of idler type water pumps.

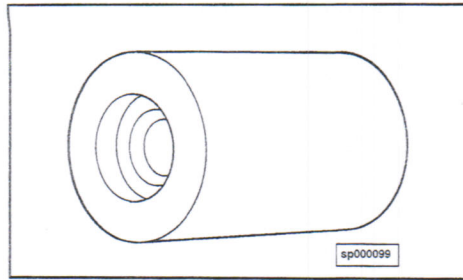




3375772
Water Pump Bearing Race Mandrel

Engine Series: V28

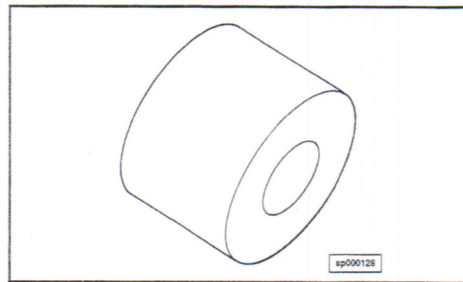
This tool is used to press on the bearing inner race as the bearing is being pressed onto the water pump shaft of the idler type water pump.



3376081
Water Pump Bearing Mandrel

Engine Series: NT

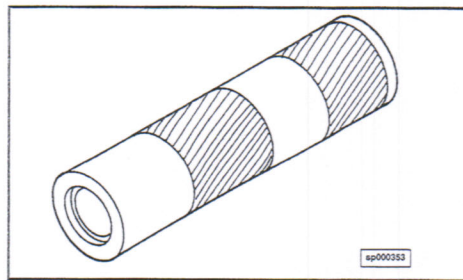
This tool is required to support the inner and outer race of the **3010150 Bearing** during assembly of the bearings onto the **3000889 Shaft**. Use this tool in conjunction with **ST 658 Bearing Mandrel**.



3376384
Water Pump Gear Mandrel

Engine Series: L10, M11

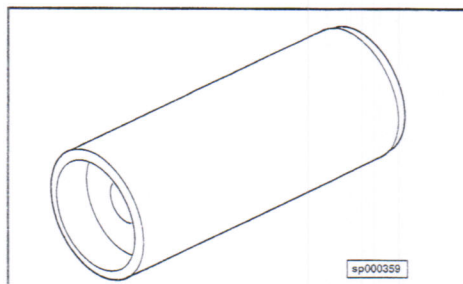
This tool is used to install or remove part number **3027223 Gear** from **3026147 Shaft**.



3823816
Water Pump Slinger Driver

Engine Series: 91N14

This special mandrel is designed to install and position the slinger, as recommended, onto the shaft.



3823851
Water Pump Drive Gear Tool

Engine Series: 91/L10

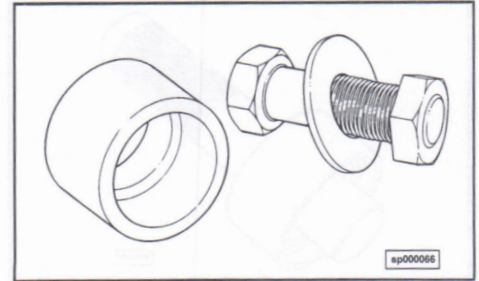
This tool is required to assemble/position the water pump drive gear onto the water pump shaft.

Miscellaneous

**3375707
Water Pump Seal Assembly Tool**

Engine Series: K19

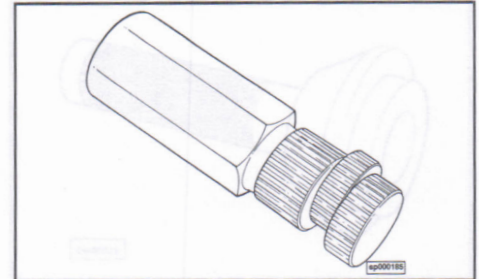
This tool is used to assemble the pulley onto the shaft and also to install the oil seal into the water pump support (3002328).



**3377144
Internal Pipe Wrench**

Engine Series: NT

This tool is used to remove or install the hose coupling in the thermostat housing of the NT Big Cam IV.

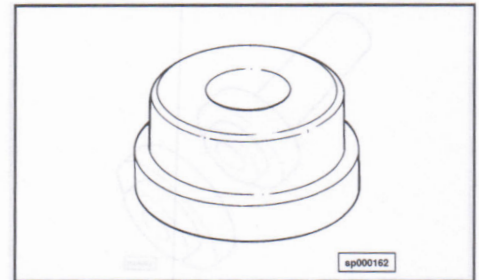


**3376819
Cup Plug Driver**

Engine Series: V28

This tool is used to install the 3013764 Expansion Plug into the outlet opening of the 3003209 Water Pump Cover.

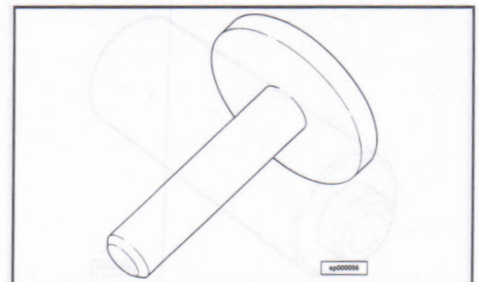
3376795 Handle must be used with this driver.



**3375705
Spring Compressor Plate**

Engine Series: K19

This tool is required to compress the spring to permit installation of the snap ring for Rockford Fan Drive.

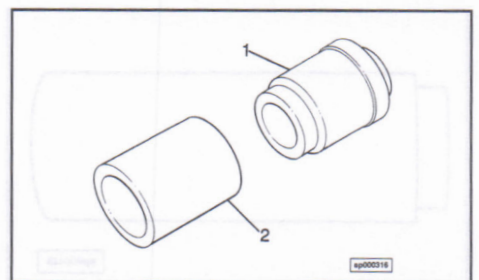


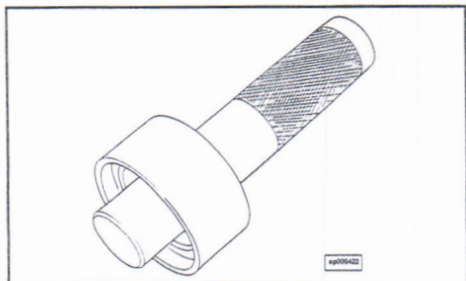
**3823378
Fan Hub Rebuild Kit**

Engine Series: L10, M11

This kit is designed to rebuild the belt driven fan hub (3034968).

Ref. No.	Part No.	Description
1	3823379	Seal/Bearing Cone Driver
2	3823380	Cup/Disassembly Pot Driver



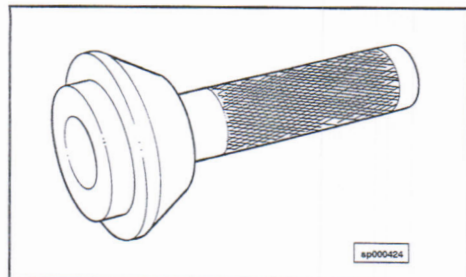


Seal Drivers and Mandrels

ST 1159 Water Pump Seal Driver

Engine Series: V903

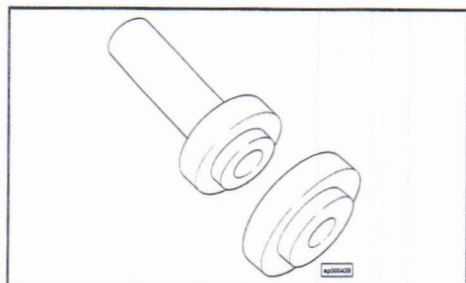
This driver is required to press a new wear sleeve onto the pulley hub during rebuild. This tool applies to NTA-370/420 and V903 series engines.



ST 1161 Water Pump Seal Driver

Engine Series: V903

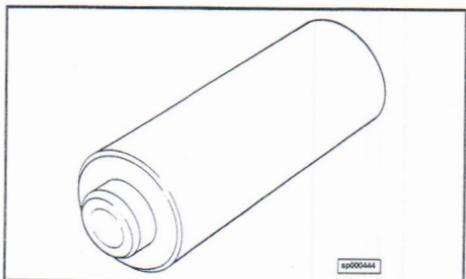
This driver is required to install the oil seal into the water pump body for NTA 370/420 and V903 Engines.



ST 1191 Water Pump Oil Seal Driver

Engine Series: NT

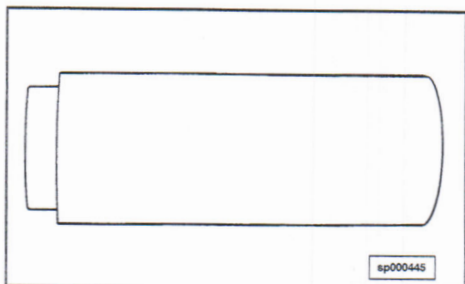
This tool provides two driver heads to install the larger and smaller seals into the water pump body for the FFC style water pump.



ST 1219 Water Pump Oil Seal Driver

Engine Series: V555 and V504

This seal driver is used to install the small oil seal into the water pump body.



ST 1220 Water Pump Oil Seal Driver

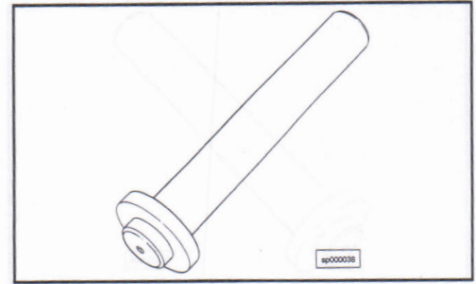
Engine Series: V555 and V504

This seal driver is used to install the large oil seal into the water pump body.

3375319
Water Pump Seal Mandrel

Engine Series: K38, K50

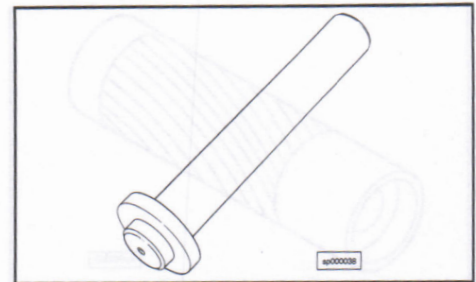
This mandrel is used to install the front water pump oil seal into the water pump body.



3375320
Water Pump Seal Mandrel

Engine Series: K19

This mandrel is designed specifically for K19 series engines using AR-12732 Water Pump Seal/Seat Assembly.



3375692
Oil Seal Mandrel

Engine Series: K19

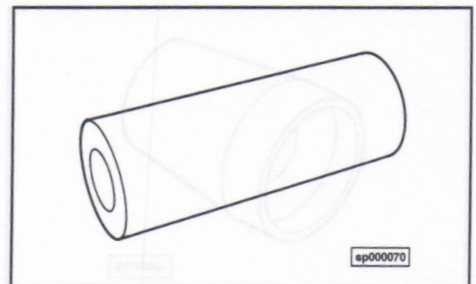
This tool is used to install the oil seal into the Rockford Fan Drive.



3375769
Oil Seal/Bushing Mandrel

Engine Series: V28

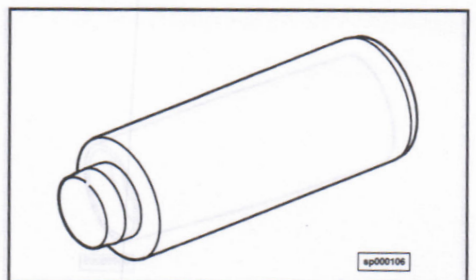
This tool is used to install the rear oil seal and bushing into the water pump body on the V28 idler type water pump.

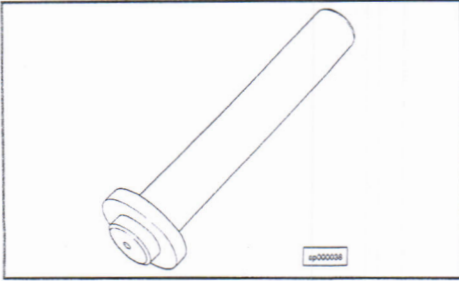


3376139
Water Pump Oil Seal Mandrel

Engine Series: L10, M11

This driver is used to install the oil seal into the water pump body before the shaft is installed.

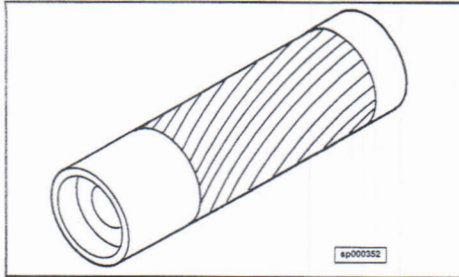




3377269
Water Pump Seal Driver

Engine Series: V903

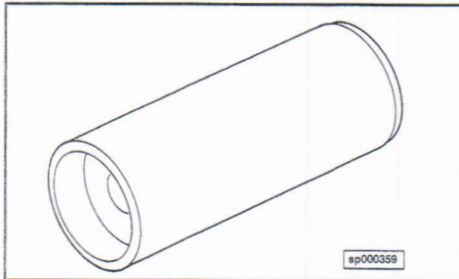
This tool is required to press the small seal into the water pump body.



3823815
Water Pump Seal Driver

Engine Series: All N855, V903, K19, V555, J & C, L10 and M11

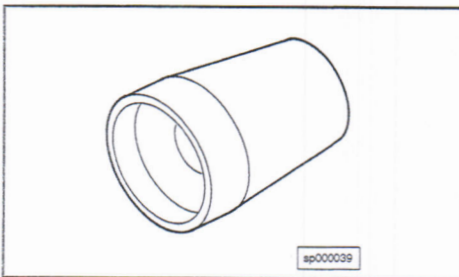
This mandrel is designed to install the "unitized" seal in the water pumps for all the above listed engines without damaging the seal.



3824836
Water Pump Seal Driver

Engine Series: K38, K50, V28

This special driver is used to install and position the seal onto the water pump drive shaft without damage to the seal.

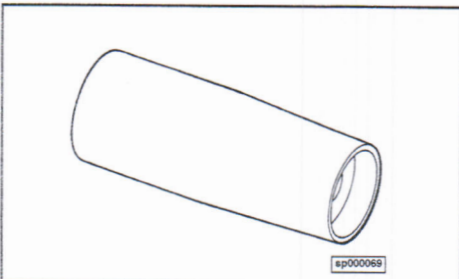


Seal Expanders and Pilots

3375321
Retaining Ring Expander

Engine Series: V28

This tool must be used to expand the ball bearing retaining ring when installing it on the water pump drive shaft.



3375768
Water Pump Seal Expander

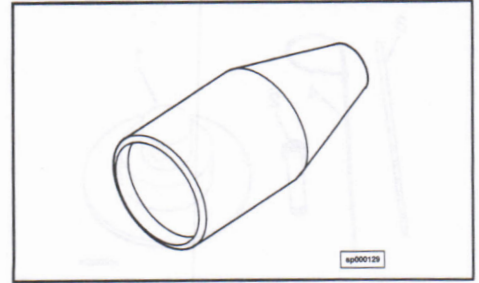
Engine Series: V28

This expander is required to install the shaft/bearing assembly through the oil seal. This tool assures the seal is not damaged during shaft installation. This is used on idler type water pumps.

3376386
Oil Seal Expander

Engine Series: L10, M11

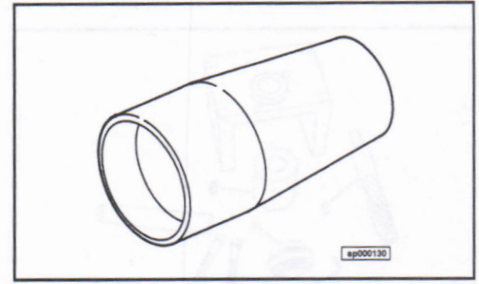
This oil seal expander is used when installing part number **3027658 Oil Seal** into the front gear cover.



3376387
Water Pump Oil Seal Expander

Engine Series: L10, M11

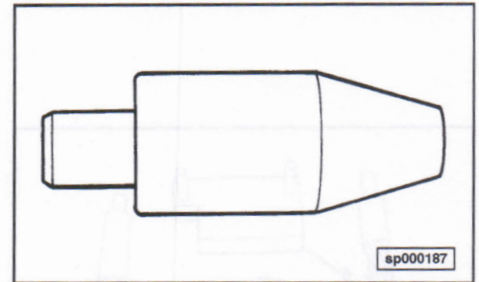
This expander is used when installing the shaft into the water pump housing. This tool assures that the seal is protected as the shaft is pressed into the water pump housing.



3377147
Water Pump Seal Expander

Engine Series: L10, M11

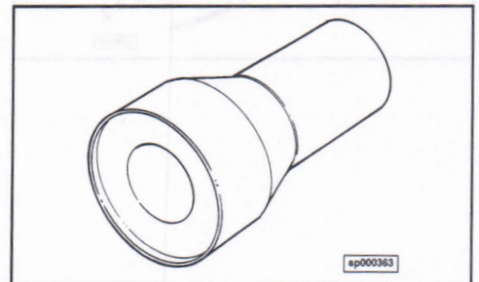
This tapered expander is designed to aid in installing the seal over the water pump shaft without damage to the seal.



3823885
Water Pump Seal Pilot

Engine Series: NT

This tool is used when installing the shaft through the oil seal. This expander allows the shaft to pass through the seal without damage to the seal. This tool applies to NT (FFC) and 91N14 series engines.

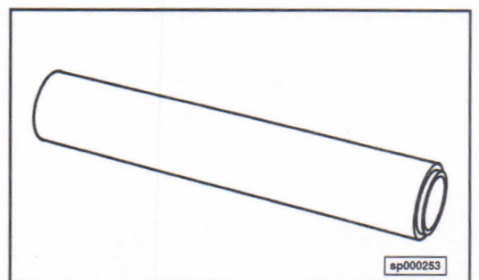


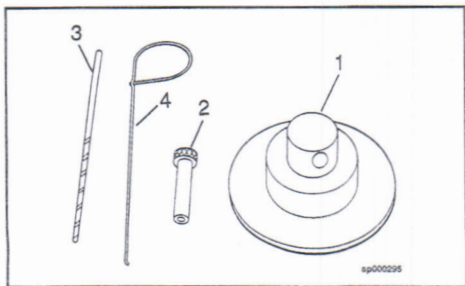
Thermostat Tools

3377414
Thermostat Check Valve Driver

Engine Series: NT

This driver is used to install the **3039405 Check Valve**, to the proper depth, in the **3040758 Thermostat Housing** of NT Big Cam IV engines.



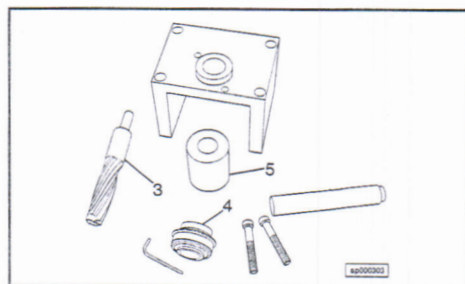


3823082
Thermostat Housing Drill Fixture-Vent Hole

Engine Series: N855 Big Cam IV

This fixture is designed to drill a vent hole in the thermostat housing as required.

Ref. No.	Part No.	Description
1	3823083	Fixture
2	3823084	Drill Bushing
3	3823085	Drill (1/8 in.)
4	3823086	Wire Hook



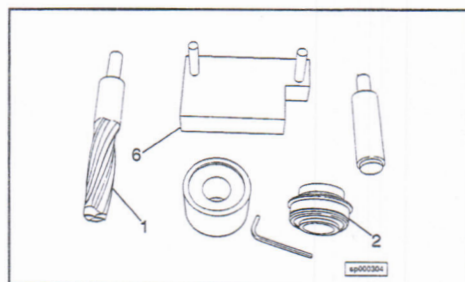
3823166
Thermostat Cover Boring Tool

Engine Series: N855 Big Cam IV

This special fixture is used to bore the thermostat cover spring bore .140 in. deeper to reduce the thermostat spring load and change the thermostat operation.

NOTE: This kit must be used without a drill press. Use **3823173 Kit** for drill press operation.

Ref. No.	Part No.	Description
3	3823169	Cover Boring Cutter
4	3823170	Depth Stop Bearing
5	3823171	Depth Stop Gauge



3823173
Thermostat Cover Boring Tool

Engine Series: N855 Big Cam IV

This special fixture is used to bore the thermostat cover spring bore .140 in. deeper to reduce the thermostat spring load and change the thermostat operation.

NOTE: This kit must be used with a drill press. Use **3823166 Kit** without a drill press.

Ref. No.	Part No.	Description
1	3823169	Cover Boring Cutter
2	3823170	Depth Stop Bearing
6	3823177	Cover Holding Plate