Parker
Motion & Control

Service Manual SM1511-002

Parker Motors

Effective: May 1, 1997

Torqlink™ TA Series Low Speed High Torque Hydraulic Motor Service Procedure

WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Parker Hannifin Corporation
Hydraulic Pump/Motor Division
Greeneville, TN 37745 USA

Definitions

WARNING	**A warning describes hazards or unsafe practices which could result in severe personal injury or death.**

CAUTION	A caution describes hazards or unsafe practices which could result in personal injury or product or property damage.

NOTE	A note gives key information to make following a procedure easier or quicker.

Disclaimer

This Service Manual has been prepared by Parker Hannifin Corporation for reference and use by mechanics who have been trained to repair and service hydraulic motors and systems on commercial and non-commercial equipment applications. Parker Hannifin Corporation has exercised reasonable care and diligence to present accurate, clear and complete information and instructions regarding the techniques and tools required for maintaining, repairing and servicing the small frame Parker TA motors. Since this is a general Service Manual, the photographs and illustrations may not look exactly like the motor being serviced. The procedures, therefore, must be carefully read and understood before servicing.

If inspection or testing reveals evidence of abnormal wear or damage to the Torqlink™ unit or if you encounter circumstances not covered in the Manual, STOP - CONSULT THE EQUIPMENT MANUFACTURER'S SERVICE MANUAL AND WARRANTY. DO NOT TRY TO REPAIR OR SERVICE A TORQLINK™ UNIT WHICH HAS BEEN DAMAGED OR INCLUDES ANY PART THAT SHOWS EXCESSIVE WEAR UNLESS THE DAMAGED AND WORN PARTS ARE REPLACED WITH ORIGINAL PARKER REPLACEMENT AND SERVICE PARTS AND THE UNIT IS RESTORED TO PARKER SPECIFICATIONS FOR THE TORQLINK™ UNIT.

It is the responsibility of the mechanic performing the maintenance, repairs or service on a particular Torqlink™ unit to (a) inspect the unit for abnormal wear and damage, (b) choose a repair procedure which will not endanger his/her safety, the safety of others, the equipment or the safe operation of the Torqlink™, and (c) fully inspect and test the Torqlink™ unit and the hydraulic system to ensure that the repair or service of the Torqlink™ unit has been properly performed and that the Torqlink™ and hydraulic system will function properly.

Introduction

The three-column format used in this Service Manual will help make it easy for you to service a hydraulic motor. Column 1 illustrates the procedure with photographs, Column 2 gives a brief key for each step, and Column 3 explains in detail the procedure you should follow. Pay special attention to the notes, cautions and warnings.

This manual contains troubleshooting information and checklists. With them you can diagnose a hydraulic system problem without removing the Torqlink™, the checklists will help you to determine where the problem may be.

Item numbers on the exploded view correspond with item numbers used throughout the Service Manual.

As you gain experience in servicing Torqlink™ units, you may find that some information in this Service Manual could be clearer and more complete. If so, let us know about it. Don't try to second-guess the Service Manual; if you do not understand a procedure, or are stuck, contact us at 423-639-8151, ask for Technical Service. Servicing Torqlink™ units should be safe and productive.

Torqlink™ TA Series Design Features

• The roller vane rotor set design offers low-friction and wear compensation which minimizes internal wear and maximizes the useful performance life of the motor.

• Patented 60-40 spline member arrangement transmits more torque with less weight.

• Interchangeability with other motors which are designed according to industry standards.

• A unique high-pressure shaft seal that eliminates the need for case drains.

• Up to 9 horsepower input.

• Shaft speed disk valving that is not affected by side loads, thus allowing the motor to maintain volumetric efficiency over time.

Troubleshooting Guide

NOTE Before troubleshooting any system problem, check service literature published by the equipment and/or component manufacturers. Follow their instructions, if given, for checking any component other than the Torqlink™ unit.

Preparation

Make your troubleshooting easier by preparing as follows:

- work in a clean, well-lighted place
- have proper tools and materials nearby
- have an air pressure source.

⚠ WARNING Since solvents are flammable, be extremely careful when using any solvent. Even a small explosion could cause injury or death.

⚠ WARNING Wear eye protection and be sure to comply with OSHA and other maximum air pressure requirements.

Preliminary Checks

Hydraulic systems are often trouble-free. Hence, the problem an operator complains of could be caused by something other than the hydraulic components.

Thus, once you have determined that a problem exists, start with the easy-to-check items, such as:

- Parts damaged from impact that were not properly repaired, or that should have been replaced
- Improper replacement parts used in previous servicing
- Mechanical linkage problems such as binding, broken or loose parts, or slipping belts

Hydraulic Components

If you think the problem is caused by a hydraulic component, start by checking the easy-to-reach items.

Check all hoses and lines for cracks, hardening or other signs of wear. Reroute any usable hoses that are kinked, severely bent, or that rest against hot parts. Look for leaks, especially at couplings and fittings. Replace any hoses or lines that don't meet system flow and pressure ratings.

Next, go to the reservoir and filters. Check fluid level and look for air bubbles. Check the filter(s). A filter with a maximum of 50 micron filtration is recommended for the Torqlink™ system. The rest of the system may need better.

Visually check other components to see if they are loosely mounted, show signs of leaks, or other damage or wear.

Excessive heat in a hydraulic system can create problems that can easily be overlooked. Every system has its limitation for the maximum amount of temperature. After the temperature is attained and passed, the following can occur:

- oil seal leaks
- loss of efficiency such as speed and torque
- pump loss of efficiency
- pump failure
- hoses become hard and brittle
- hose failure

A normal temperature range means an efficient hydraulic system. Consult the manuals published by equipment and/or component manufacturers for maximum allowable temperatures and hydraulic tests that may be necessary to run on the performance of the hydraulic components. The Torqlink™ is not recommended for hydraulic systems with maximum temperatures above 200 F (93.3 C).

Troubleshooting Checklist

Trouble	Cause	Remedy
Oil Leakage **⚠ CAUTION** If the hydraulic system fluid becomes overheated, in excess of 200 F (93.3C), seals in the system can shrink, harden or crack, thus losing their sealing ability.	1. Hose fittings loose, worn or damaged.	Check and replace damaged fittings or o-rings. Torque to manufacturers specifications.
	2. Oil seal rings (3) deteriorated by excess heat.	Replace oil seal rings by disassembling Torqlink™ unit.
	3. Special bolt (1) loose or sealing area deteriorated by corrosion.	a) Loosen then tighten single bolt to torque specification. b) Replace bolt.
	4. Internal shaft seal (11) worn or damaged.	Replace seal. Dissembly of Torqlink™ unit necessary.
	5. Worn coupling shaft (8).	Replace coupling shaft and seal by disassembling Torqlink™ unit.
Significant loss of speed under load	1. Lack of sufficient oil supply.	a) Check for faulty relief valve and adjust or replace as required. b) Check for and repair worn pump. c) Check for and use correct oil for temperature of operation.
	2. High internal motor leakage.	Replace worn rotor set by disassembling Torqlink™ unit.
	3. Severely worn or damaged internal splines.	Replace rotor set, drive link and coupling shaft by disassembling Torqlink™ unit.
	4. Excessive heat.	Locate excessive heat source (usually a restriction) in the system and correct the condition.
Low mechanical efficiency or undue high pressure required to operate Torqlink™ unit.	1. Line blockage.	Locate blockage source and repair or replace.
	2. Internal interference.	Disassemble Torqlink™ unit, identify and remedy cause and repair, replacing parts as necessary.
	3. Lack of pumping pressure.	Check for and repair worn pump.
	4. Excessive binding or loading in system external to Torqlink™ unit.	Locate source and eliminate cause.

Torque Chart

Part Name	Item #	Torque Range
Bolt 5/16-24 UNF 2A	1	22-26 ft. lbs.

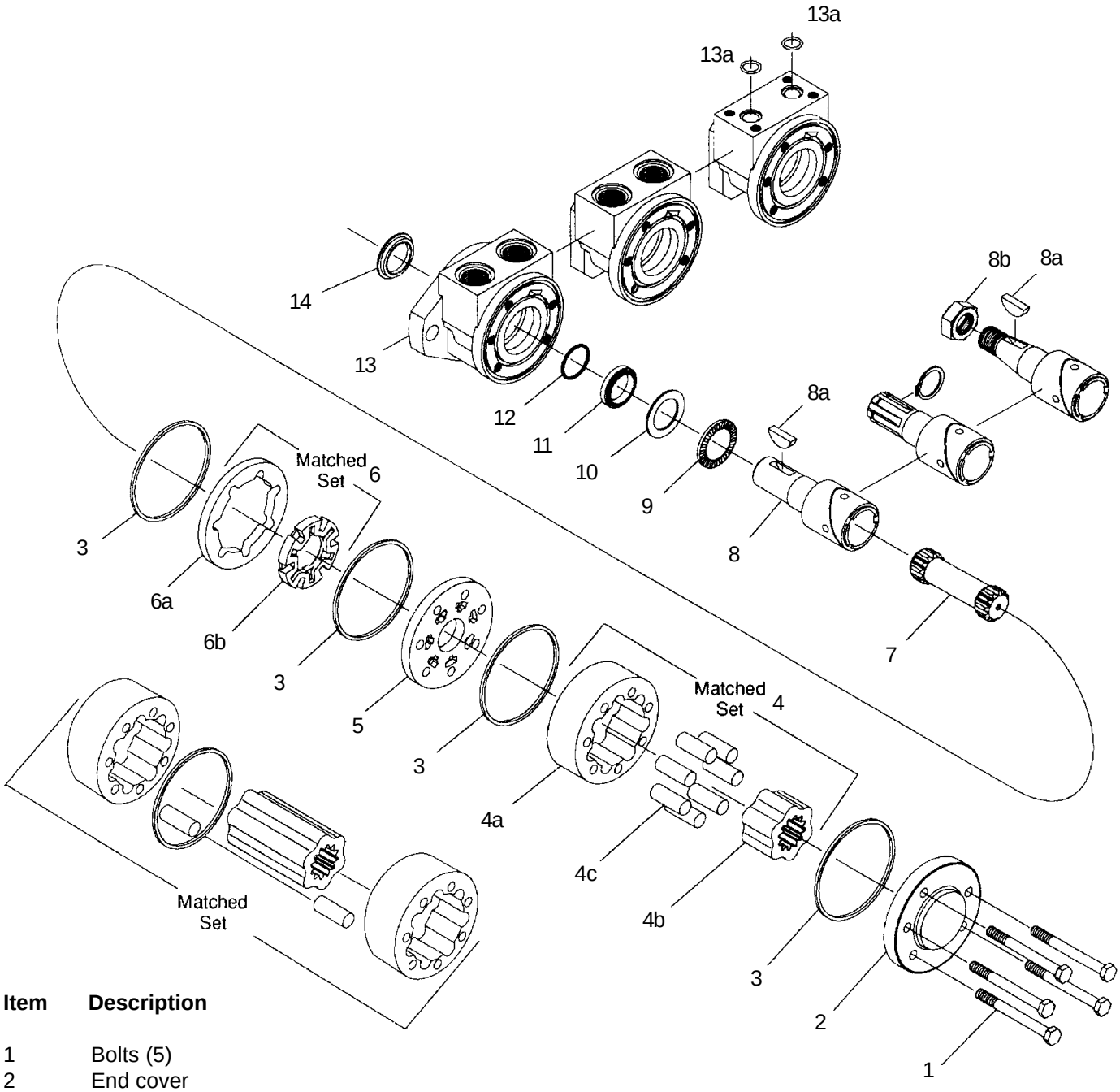
Tools and Materials Required for Servicing

- TA Service Manual
- Clean, OSHA approved solvent
- Emery paper
- Soft-jawed vice
- Air-pressure source
- Screwdriver
- Torque wrench (ft. lbs.)
- Sockets: 1/2"
- Feeler gauge .005" (.13mm)

NOTE	The available service seal kits include the recommended grease as a grease P.N. #406018

⚠ CAUTION	Mixing greases that have different bases can be detrimental to bearing life.

TA Torqlink™ Exploded View - Typical



Item	Description		
1	Bolts (5)		
2	End cover		
3	Seal ring (4)		
4	Rotor set		
4a	Rotor		
4b	Stator		
4c	Vane (7)	9	Thrust bearing
5	Manifold	10	Thrust washer
6	Commutator set	11	Seal
6a	Commutator ring	12	Backup washer
6b	Commutator	13	Housing
7	Drive link	13a	O-ring (2)
8	Coupling shaft	14	Dirt & water seal
8a	Woodruff Key	15	Identification tag
8b	Nut	16	Drive screw (2)

TA Service Parts List Chart

Chart Use Example:

TA0-020-AS-R includes part numbers listed to the right of TA (series), 0 (coupling shaft), 020 (disp.), AS (housing) and R (option) codes shown in the left hand column of the charts. (Option) codes shown in the left hand column of the charts.

> ⚠ CAUTION — The charted component service information is for the motors listed only. Refer to the original equipment manufacturer of the equipment using the motor for assembly numbers not listed below.

Series

	6	5	9	10	12	14
	Commutator Set Assy	Manifold	Thrust Bearing	Thrust Washer	Backup Ring	Dirt & Water Seal
TA	MK014000-A1	MK015000	065066	028483	028516	478036

Standard Seal Kit #3217 includes:
032821 (qty. 4) Seal Rings
032377 Shaft Seal
028516 Backup Ring
478036 Dirt & Water Seal
406018 Grease Pack

FLUOROELASTOMER Seal Kit #3218 includes:
032822 (qty. 4) Seal Rings
032809 Shaft Seal
028516 Dirt & Water Seal
406018 Grease Pack

FLUOROELASTOMERS are available under various registered trademarks, including VITON (a registered trademark of DuPont) and FLUOREL (a registered trademark of 3M)

Displacement Group

Code	Exploded View Item #	1	4A	4	7	4-1[5]
I[3](CM[3])[1]	Description	Bolts(5)	(Stator) Dimension	Rotor Set	Drive Link	Free Running Rotor Set
026(0045)	Service Part #	021354	.3188	MF027003	MK023000	MF027005
030(0500)	Service Part #	021363	.3770	MF037003	MK033000	MF037005
040(0065)	Service Part #	021355	.5020	MF047003	MK043000	MF047005
050(0080)	Service Part #	021428	.6277	MF057003	MK053000	MF057005
060(0100)	Service Part #	021356	.7527	MF067003	MK063000	MF067005
080(0130)	Service Part #	021306	1.0027	MF087003	MK083000	MF087005
099(0160)	Service Part #	021357	1.2527	MF107003	MK103000	MF107005
119(0195)	Service Part #	021307	1.5027	MF127003	MK123000	MF127005
139(0230)	Service Part #	021358	1.7527	MF147003	MK143000	MF147005
159(0260)	Service Part #	021308	2.0027	MF167003	MK163000	MF167005
179(0295)	Service Part #	021359	2.2527	MF187003	MK183000	MF187005
200(0330)	Service Part #	021310	2.5027	MF207003	MK203000	MF207005
226(0365)	Service Part #	021383	2.843	MF227003	MK223000	Not Available
240(0390)	Service Part #	021384	3.7554	MF247003	MK243000	Not Available

Housing Group

Code	Exploded View Item #	[a]13	[a]13A[4]	Option "R"[4]
SL[2](WW[3])	Description	Hsg. Assy	O-Ring(2)	Relief Valve Bolts (4)
AS(AS)	Service Part #	MK012001		
AP(AP)	Service Part #	MK012006		
AM(AM)	Service Part #	MK012004-J1	032200-10	021451
FS(FS)	Service Part #	MK012002		
FP(FP)	Service Part #	MK012003		
FM(FM)	Service Part #	MK012005-J1	032200-10	021451

Coupling Shaft Group

Code	Exploded View Item #	8	8A	8B
SL[2](WW[3])	Description	Coupling Shaft	Woodruff Key	Nut
0(10)	Service Part #	MK019001	G124553	
1(11)	Service Part #	MK019002		
F(09)	Service Part #	MK019000		
J(25)	Service Part #	MK019006	G124553	025136

Options Group

Code	Exploded View Item #	2	3	11		
SL[2](WW[3])	Description	End Cover	Seal Ring(5)	Inner Seal	Paint	Other
Omit (AAAB)	Service Part #	MF016000	032821	032377		
R (HAAB)	Service Part #	MF016000	032821	032377		Crossover relief valve P/N 1894-1[4]
F (AAAA)	Service Part #	MF016000	032821	032377	Black	
D (AAAC)	Service Part #	MF016000	032821	032377	Double black	
W (AAFC)	Service Part #	MF016000	032821	032377	White epoxy	
V (AAAH)	Service Part #	MF016000	032822	032809		Viton™ seals
E (AABK)	Service Part #	MF016000	032821	032377		Free running rotor set[5]
WV (AAHD)	Service Part #	MF016000	032822	032809	White epoxy	Viton™ seals

[1] I^3 = cubic inches; CM^3 = cubic centimeters
[2] SL = Parker Super Line codes
[3] WW = Parker WorldWide motor equivalent designations (effective mid 1997)
[4] The crossover relief valve assembly, P/N 1894-1, requires o-rings item 3 18A and option R bolts charted in the Housing Group. This option is available only in displacements 026 through 119.
[5] For free running rotor set part numbers, see item # 4-1 in the Displacement Group.

Disassembly Preparation

Before you disassemble the Torqlink™ unit or any of its components, read this entire manual. It provides important information on parts and procedures you will need to know to service the Torqlink™.

The Small Frame TA Torqlinks™ will have a 3.76" (95.5mm) main body outside diameter and five 5/16-24 UNF 2A cover bolts.

Refer to page 4 for tools and other items required to service the Torqlink™ and have them available.

Thoroughly clean off all outside dirt, especially from around fittings and hose connections before disconnecting and removing the Torqlink™. Remove rust or corrosion from the coupling shaft.

Remove coupling shaft connections and hose fittings and immediately plug port holes and fluid lines.

Remove the Torqlink™ from the system, drain it of fluid and take it to a clean work surface.

Clean and dry the Torqlink™ before you start to disassemble the unit.

As you disassemble the Torqlink™, clean all parts, except seals, in clean, OSHA approved solvent, and air blow them dry.

⚠ **WARNING**	Since they are flammable, be extremely careful when using any solvent. Even a small explosion or fire could cause injury or death.

⚠ **WARNING**	Wear eye protection and be sure to comply with OSHA or other maximum air pressure requirements.

⚠ **WARNING**	Never steam or high pressure wash hydraulic components. Do not force or abuse closely fitted parts.

Keep parts separate to avoid nicks and burrs.

Discard all seals and seal rings as they are removed from the Torqlink™. Replace all seal rings and any damaged or worn parts with genuine Parker Hannifin Corporation or OEM approved service parts.

Disassembly & Inspection

NOTE	As the motor is disassembled, clean all parts in a clean, petroleum-based solvent, and air dry only.

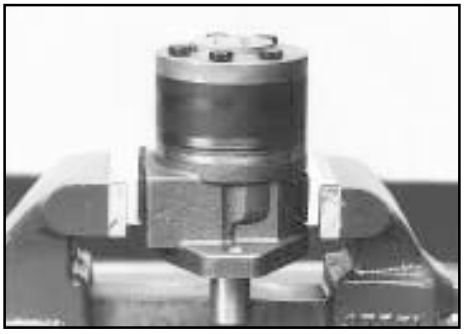
⚠ WARNING	Since they are flammable, be extremely careful when using any solvent. Even a small explosion or fire could cause injury or death.

Remove shaft hardware

1. If a woodruff key is present, remove by pulling straight out, using a vise-grip pliers, cold chisel, or other appropriate tool. The key can be reused if not damaged by use or removal.

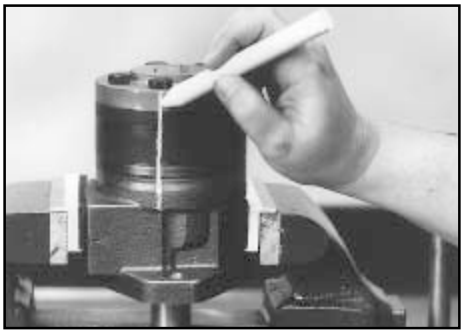
Remove dirt & water seal

2. Wear eye protection and gently pry the external dirt and water seal (14) out of the housing using a screwdriver, discard the seal. Be careful not to damage the housing. (Note: Number in parenthesis is referring to components in exploded view.)



Place motor in vise

3. Position the motor in a soft-jawed vise, with the shaft pointed downward. Clamp firmly on the sides of the housing mounting flange or port bosses.



Scribe a line on the motor

4. Scribe a line on the motor from the end cover to the housing, to facilitate reassembly.

Remove and inspect bolts

5. Remove the five bolts (1) using a 1/2" standard socket. Inspect for damaged threads, stretched, bent or broken bolts, or damaged sealing surface under the bolt head. Replace if necessary.

Remove and inspect end cover

6. Remove the end cover (2) and seal ring (3). Discard the seal ring.

Inspect the end cover for good bolt head sealing surfaces. Inspect for wear or scoring from rotor set and/or drivelink. A polished pattern on the end cover from the rotor set is normal. Also inspect for discoloration from excess heat. Replace if necessary.

Remove rotor set and manifold

7. Remove the rotor set (4) and manifold (5) together so the vanes won't fall out of the rotor set. The drivelink stays in the motor.

Separate the rotor set (4) from the manifold (5). Remove and discard both seal rings (3).

Inspect rotor set

8. Inspect the rotor set (4) for nicks, scoring, spalling, or chipping on any surface. If damage is found, replace the entire set.

Also inspect roller lobe to vane clearance. Locate a rotor lobe that is aligned with the center of a vane. The gap between this lobe and vane must be no more than .005" as measured with a feeler gauge. Replace the entire set if necessary.

Inspect Manifold

9. Inspect the manifold (5) for cracks, surface scoring, brinelling, spalling or discoloration from excess heat. A polished pattern on the manifold from commutator and rotor set rotation is normal. If a step has formed on the manifold, or other damage is noted, replace it.

Remove seal ring

10. Remove and discard seal ring (3) in housing face.

Inspect housing

11. Inspect the housing (13) for cracks. Inspect machined surfaces for nicks, burrs, brinelling, galling or corrosion. Remove burrs that can be removed without changing dimensional characteristics. Inspect tapped holes for thread damage. Inspect housing face for discoloration from excess heat. A polished pattern on the housing face from commutator rotation is normal, but a step created by rotation is not. Replace the housing if necessary.

Assembly Preparation

Replace all seals and seal rings with new ones each time you reassemble the Torqlink™ unit. Lubricate all seals and seal rings with SAE 10W40 oil or clean grease before assembly.

NOTE	Individual seals and seal rings as well as a complete seal kit are available through most OEM parts distributors or Parker Hannifin Corporation approved Torqlink™ distributors.

NOTE	Unless otherwise indicated, do not oil or grease parts before assembly.

Wash all parts in clean, petroleum-based solvents before assembly. Blow them dry with compressed air. Remove any paint chips from mating surfaces of the end cover, commutator set, manifold, rotor set, and housing, and from port and sealing areas.

⚠ WARNING	Since they are flammable, be extremely careful when using any solvent. Even a small explosion or fire could cause injury or death.

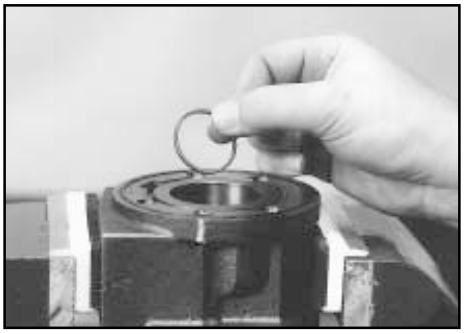
⚠ WARNING	Wear eye protection and be sure to comply with OSHA or other maximum air pressure requirements.

Assembly

Install seal ring

1. Place the housing in a vise with the large (inner) bore upwards.

Grease and install a new seal ring (3) in the housing face.



Install back up washer

2. Install a new back up washer (12), make sure it is fully sealed.

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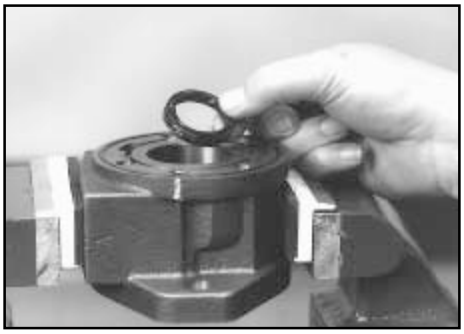


Install shaft seal

3. Grease and install a new shaft seal (11), with the lip side up, working it down with your fingertips until it is fully seated.

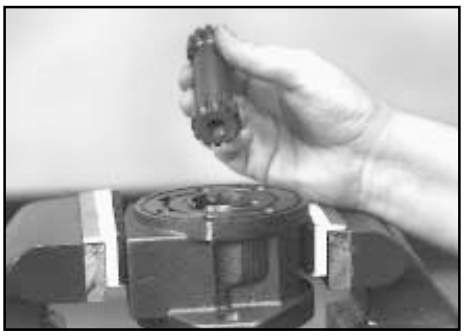
Install thrust washer and thrust bearing

4. Install the thrust washer (10), and then the thrust bearing (9). Make sure they are properly seated.

Install coupling shaft

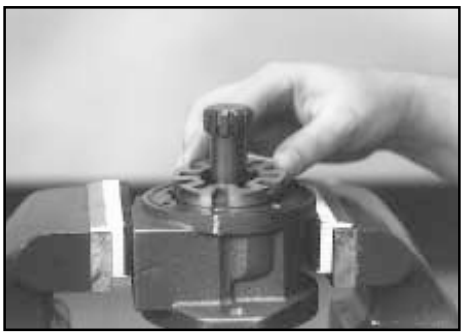
5. Grease the coupling shaft (8) around the shaft seal contact area and assemble into housing. Use a twisting motion while applying downward pressure until it is fully seated.

NOTE	The shaft step with drive slots should remain above the housing surface.



Install drive link

6. Assemble the drive link (8) into the coupling shaft (8), with the large center down.



Install commutator

7. Install the commutator (6B) into the slots in the coupling shaft (8).

Align timing mark

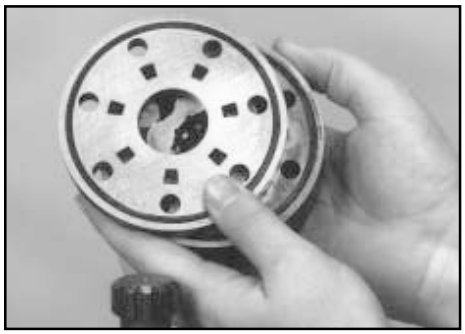
8. Align one commutator timing mark with the center of one bolt hole in the housing. Mark this hole on the outside of the housing, this becomes your alignment hole.

⚠ **CAUTION**	The motor will not function properly if this timing mark is not correctly aligned.
	If timing mark is not correctly aligned, motor will rotate in the opposite direction

Install commutator ring

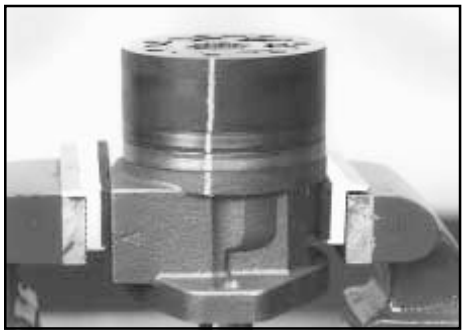
9. Install the commutator ring (6A), aligned with the bolt holes, and your scribe mark.

NOTE	Take note of the position of the housing bolt holes before further assembly. This will help you correctly position the end cover.



Install seal rings

10. Grease and install new seal rings (3) in the rotor set and manifold.



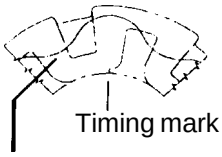
Assemble manifold

11. Assemble the manifold (5), with the seal ring (3) facing down, and bolt holes & scribe marks aligned.

NOTE	If rotor set has become disassembled, refer to instructions beginning on page 18.

Install manifold and rotor set

Bolt hole-- ○



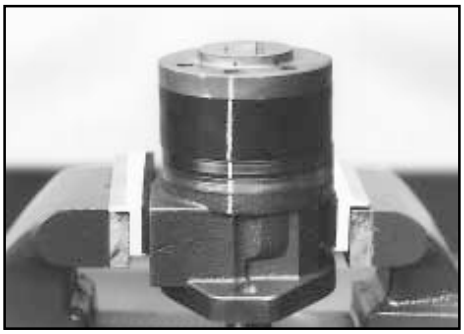
12. Locate a rotor lobe that is approx. centered with a bolt hole in the stator. Position the assembly so this hole aligns with the alignment hole you marked previously on the housing. Install the rotor set with the seal ring down, and alignment holes aligned.

Once the spline teeth of the drive link are engaged with the rotor, you may rotate the stator (assembly) to align the scribe marks.

⚠ **CAUTION**	The motor will not function properly if this timing mark is not correctly aligned.

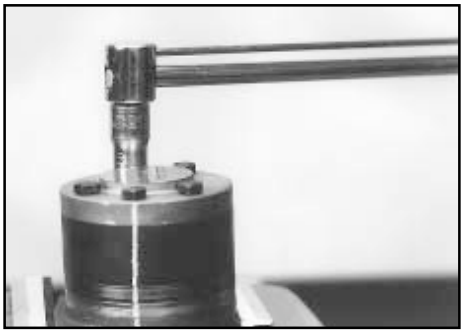
Install seal ring

13. Grease and assemble a new seal ring (3) into the end cover.



Install end cover

14. Note the bolt hole pattern and install the end cover (2).

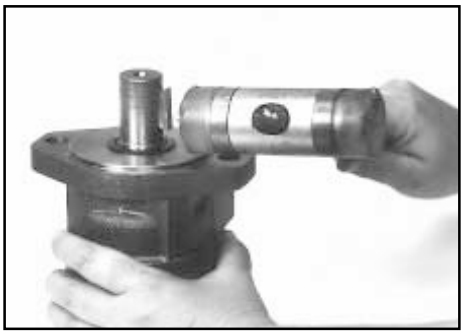


Install bolts

15. Install the bolts (1), torque in an alternate pattern to 22-26 lb ft.

Install dirt & water seal

16. Remove the assembly from the vise. Fill the dirt and water seal cavity with grease, and lubricate the seal (14). Tap the seal into place using an appropriate size socket or piece of tubing.



Install shaft hardware

17. Install the woodruff key (8A) (if required) by tapping into place with a soft mallet.

The nut (8B) (if required) will be assembled during motor installation.

Final Checks

• Pressurize the Torqlink™ with 100 PSI dry air or nitrogen and submerge in solvent to check for external leaks.

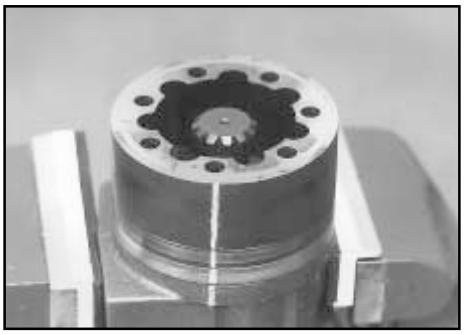
• Check Torqlink™ for rotation. Torque required to rotate coupling shaft should not be more than 50 lbf•ft.

• **Pressure port with "A"** cast under it on housing (18) is **for clockwise** coupling shaft **rotation** as viewed from the output end of coupling shaft. Pressure port with "B" cast under it is for counter-clockwise coupling shaft rotation for standard units.

• Use test stand if available, to check operation of the Torqlink™.

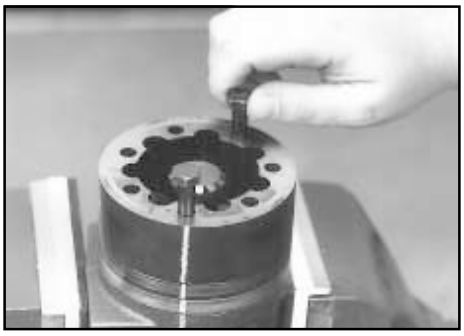
Rotor Set Component Assembly Procedure

A disassembled rotor (4A), stator (4B) and vanes (4C) that cannot be readily assembled by hand can be assembled by the following procedures.



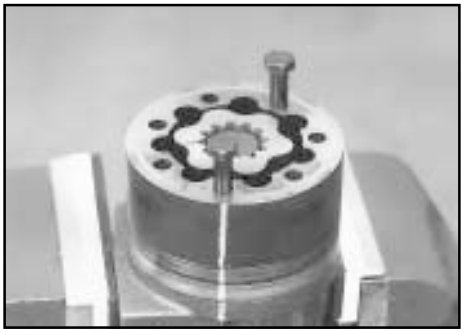
Assemble Stator

1. Place stator (4B) onto manifold (5) with seal ring side down, after following Torqlink™ assembly procedures 1 through 11. Be sure the seal ring (3) is in place.



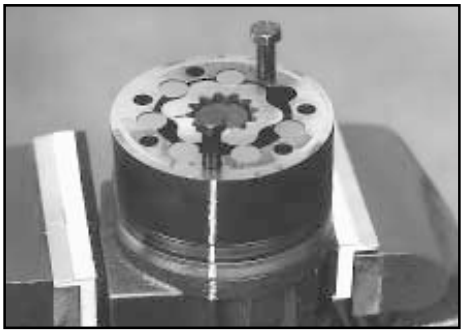
Insert two bolts

2. Align stator bolt holes with manifold and housing bolt holes and turn two bolts (1) finger tight into bolt holes approximately 180° apart to retain stator and manifold position.



Assemble rotor

3. Assemble the rotor (4A), counterbore (if present) into stator (4B), and onto manifold (5) with rotor splines into mesh with drive link splines.



Assemble vanes

4. Assemble six vanes (4C), or as many vanes that will readily assemble into the stator vane pockets.

⚠ **CAUTION**	Excessive force used to push the rotor vanes into place could damage pockets or vanes, or shear off the coating applied to the stator vane pockets.

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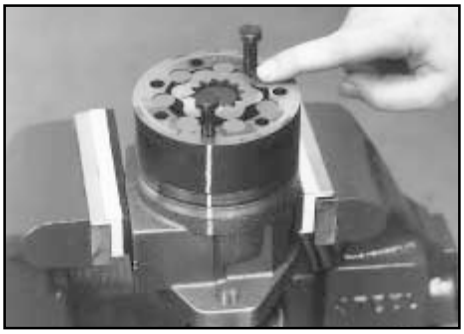
Greeneville, TN 37745 USA



Assemble full complement of vanes

5. Grasp the output end of coupling shaft (8) with locking pliers or other appropriate turning device and rotate coupling shaft, drive link and rotor to seat the rotor and the assembled vanes (4C) into stator (4B), creating the necessary clearance to assemble the seventh or full complement of seven vanes. Assemble the seven vanes using minimum force.

Remove two assembled bolts

6. Remove the two assembled bolts (1) is used to retain stator and wear plate.

Go to Torqlink™ assembly step 12, page 17 to continue Torqlink™ assembly.

System Maintenance Tips

- Adjust fluid level in reservoir as necessary.
- Encourage all operators to report any malfunction or accident that may have damaged the hydraulic system or component.
- Do not attempt to weld any broken Torqlink™ component. Replace the component with original equipment only.
- Do not cold straighten, hot straighten, or bend any Torqlink™ part.
- Prevent dirt or other foreign matter from entering the hydraulic system. Clean the area around the filler caps before checking oil level.
- Investigate and correct any external leak in the hydraulic system, no matter how minor the leak.
- Comply with manufacturer's specifications for cleaning or replacing the filter.

⚠ **CAUTION**	Do not weld, braze, solder or in any way alter any Torqlink™ component.

⚠ **CAUTION**	Maximum operating pressure must not exceed recommended Torqlink™ pressure capacity.

⚠ **CAUTION**	Always carefully inspect any system component that may have been struck or damaged during operation or in an accident. Replace any component that is damaged or that is questionable.

⚠ **CAUTION**	Do not force any coupling onto the Torqlink™ coupling shaft as this could damage the unit internally.

Parker Motor Operation extends close technical cooperation and assistance. If problems occur which you cannot solve, please contact our service department at (423) 639-8151, or your local Parker approved distributor.

Hydraulic Fluids

Keep the hydraulic system filled with one of the following:

- 10W40 SE or SF, or manufacturer's suggested oil.
- Hydraulic fluid as recommended by equipment manufacturer, but the viscosity should not drop below 50 SSU or contain less than .125% zinc anti-wear additives.

⚠ **CAUTION**	Do not mix oil types. Any mixture, or an unapproved oil could deteriorate the seals. Maintain the proper fluid level in the reservoir. When changing fluid, completely drain old oil from the system. It is suggested also that you flush the system with clean oil.

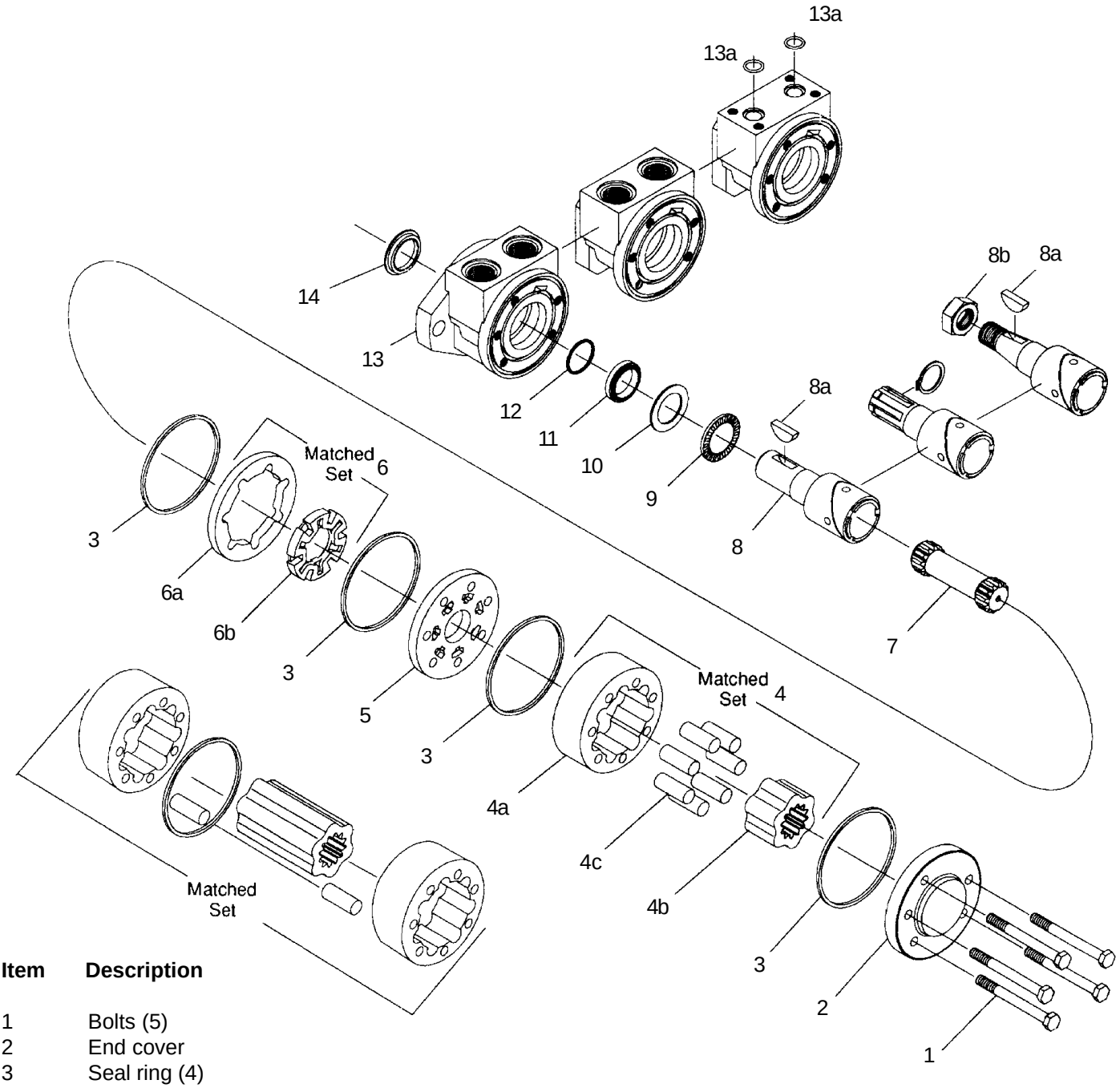
Filtration

Recommended filtration 20-50 micron.

Oil Temperature

Maximum operating temperature 200 F.

TA Torqlink™ Exploded View - Typical



Item	Description		
1	Bolts (5)		
2	End cover		
3	Seal ring (4)		
4	Rotor set		
4a	Rotor		
4b	Stator		
4c	Vane (7)		
5	Manifold		
6	Commutator set	9	Thrust bearing
6a	Commutator ring	10	Thrust washer
6b	Commutator	11	Seal
7	Drive link	12	Backup washer
8	Coupling shaft	13	Housing
8a	Woodruff Key	13a	O-ring (2)
8b	Nut	14	Dirt & water seal

Notes

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