



SpinTORQ

Application: 360° By-Directional Torque Wrench



Operation and Maintenance Manual

Keep for your records

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INTRODUCTION

You have acquired SpinTORQ the finest Torque Wrench on the market. The SpinTORQ is a 360-degree, continuously rotating hydraulic torque wrench SpinTORQ is a 3,000 psi system wrench. SpinTORQ can be used for both surface and sub-sea bolting operations. Because of its 3,000 PSI system Spin-Torq can easily adapt to the ROV without the use of hydraulic hose down line.

SpinTORQ Wrenches are dependable and durable. When operated properly, SpinTORQ Torque Wrenches will deliver accurate torque within their specified range.

All metals contain no more than 7.5% magnesium

All corrosion protection coating is limited to no more than 2mm thickness.

Please be sure to read this manual very carefully. Save it in a secure place and refer to it when needed.

For additional information call FASTORQ at 281.449.6466, Toll Free at 1.800.231.1075 or by e-mail at sales@FASTORQ.com.

UNIT SPECIFICATIONS

Air Input Required **90 PSI**

Air Input Hose **1" Dia.**

Hydraulic Input Flow

Maximum **20 GPM**

Minimum **3 GPM**

Hydraulic Output Pressure

Maximum **3000 PSI**

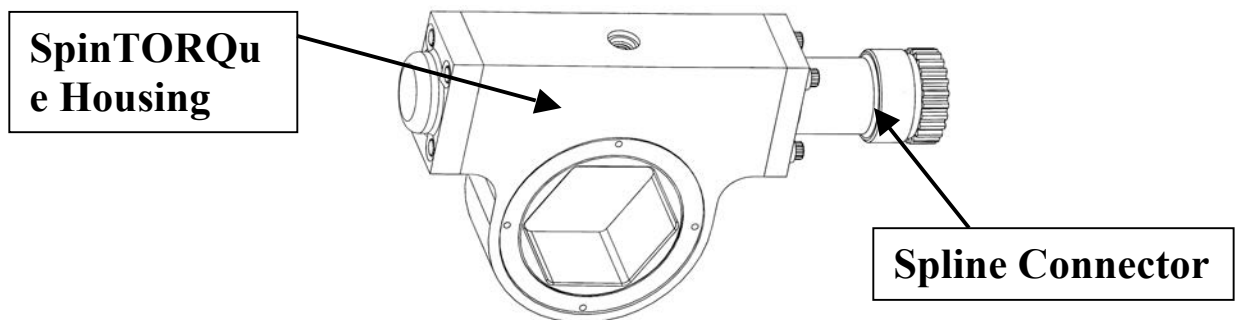
MAIN COMPONENTS

SPINTORQ - The patented technology of the SPINTORQ wrench provides a 360° degree continuous rotation to create speed and accuracy with little effort. The convenience of full power in both directions, together with tremendous speed, results in dramatic timesaving benefits.

What gives the SpinTORQ its power to deliver full torque is the double enveloping worm gear. See photo below



SPINTORQ HOUSING & SPLINE CONNECTION – SpinTORQ Housing & Spline Connection is made of 17.4PH Stainless Steel so it will not rust during bolting operations. SpinTORQ housing also houses the Double Enveloping Gear.



HYDRAULIC MOTOR ASSY. - Hydraulic Motors Convert the movement (kinetic energy) and pressure (potential energy) of a stream of hydraulic fluid into continuous moving energy of a rotating shaft.



STORM CASES WITH FOAM INSERTS – SpinTORQ is protected from weather and damage and is tightly positioned in a tailor made storm case.

ACCESSORIES

STACK SOCKETS WITH RETAINING RING- User can change to a different hex size nut without changing the wrench head of the SpinTORQ.



INSERT SOCKETS WITH RETAINING RING- Low profile socket that the user can change to a different hex size nut without changing the wrench head of the SpinTORQ.



REACTION UNIT - Reaction unit that bolts on the motor side of the wrench.



POWER REQUIREMENTS

SpinTORQ Torque Wrench is powered by using external hydraulics such as the tong circuit on a drilling rig or the FASTORQ Model 603A SpinTORQ Power Unit.

603A Pump

The Auto-Torq 603A is a super high speed linear displacement double acting plunger pump, driven by a 6 HP reciprocating air motor to provide 10 GPM maximum oil flow at no load and 4 GPM at 1500 PSI.



ST-CU Unit

The ST-CU unit Maximum output pressure is 3000 PSI.

Integrated Control Console:

Pressure reducing valve for pressure (torque) control

Flow control valve for speed control

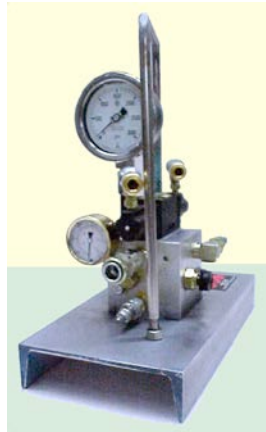
Air pilot operated 4-way valve for directional control

Glycerin-filled easy-to-read pressure gauge

Inlet & outlet hydraulic ports for use with external hydraulic source

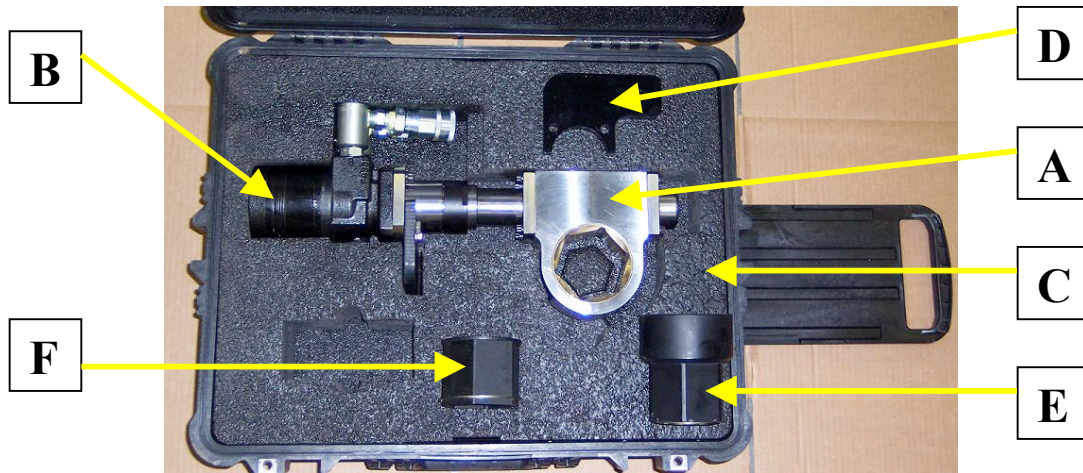
Adjustable pressure (torque) control from 200 PSI to 3000 PSI

Adjustable speed control from 2-GPM to 20-GPM



UNPACKING

The SpinTORQ Torque Wrench is **FULLY TESTED AND CALIBRATED** before it is shipped. Upon receiving your SpinTORQ, verify that you have received the following items as listed below.



- A - SpinTORQ Housing**
- B- Hydraulic Motor Assembly**
- C- Storm Case**
- D- Reaction Unit**
- E- Stack Socket with Retaining Ring (accessories)**
- F- Insert Socket with Retaining Ring (accessories)**

SAFETY PRECAUTIONS

IMPORTANT

Please read and follow all instructions to avoid the risk of personal injury and / or property damage.

CAUTION

Always wear safety goggles or safety glasses, and protective gloves when operating the SpinTORQ Torque Wrench.

WARNING

Do not allow air hoses to kink, twist, curl or bend.

Never attempt to grasp the hex part of the SpinTORQ while in operation.

Never exceed the rated Torque Value of the tool.

PRE-TORQUE INSTRUCTIONS

Insure that the threads are clean and in excellent condition. This is verified when the nuts are being assembled onto the studs. The nuts should screw on the studs freely by hand.

Torque value is set to the PSI on the 603A Pump of the ST-CU Unit. See calibration Torque / PSI sheet at the end of the manual.

OPERATION INSTRUCTIONS

- 1. Each SpinTORQ hex cartridge (Fig 1) is a sealed unit. The precision gearing is installed and adjusted at the factory. DO NOT LOOSEN OR REMOVE THE END CAPS (A and B) OR THE RETAINING RING (C). Opening these connections will void the warranty.**

- 2. The SpinTORQ Housings are connected to the hydraulic motor at the splined connection (E). Several cartridges of different sizes may be interchangeably connected to the motor.**
- 3. To operate the SpinTORQ, refer to the “Pressure vs. Torque Chart” supplied with each serial numbered unit located at the end of the manual.
DO NOT EXCEED THE MAXIMUM PRESSURE INDICATED ON THE TORQUE CHART.**
- 4. Preset the SpinTORQ Control Unit or 603A Power Unit to the desired torque, and follow the instructions of the control unit.**
- 5. Place the SpinTORQ on the nut and press one of the buttons on the control pendant to start rotation. To reverse direction of rotation, press the other button.**
- 6. During the torquing operation, allow the SpinTORQ cartridge end cap “A” to react against an adjacent nut. This is the preferred reaction point. When loosening, turn the SpinTORQ over so end cap “A” is the reaction point.**
- 7. When the nut is torqued to preset level, the SpinTORQ cartridge will stall.**
- 8. To release the reaction point, reverse the SpinTORQ rotation a few degrees until loosened.**

DANGER:

Ensure that fingers & hands are not in the pinch point areas of the tool. See Figure 2 for pinch point areas

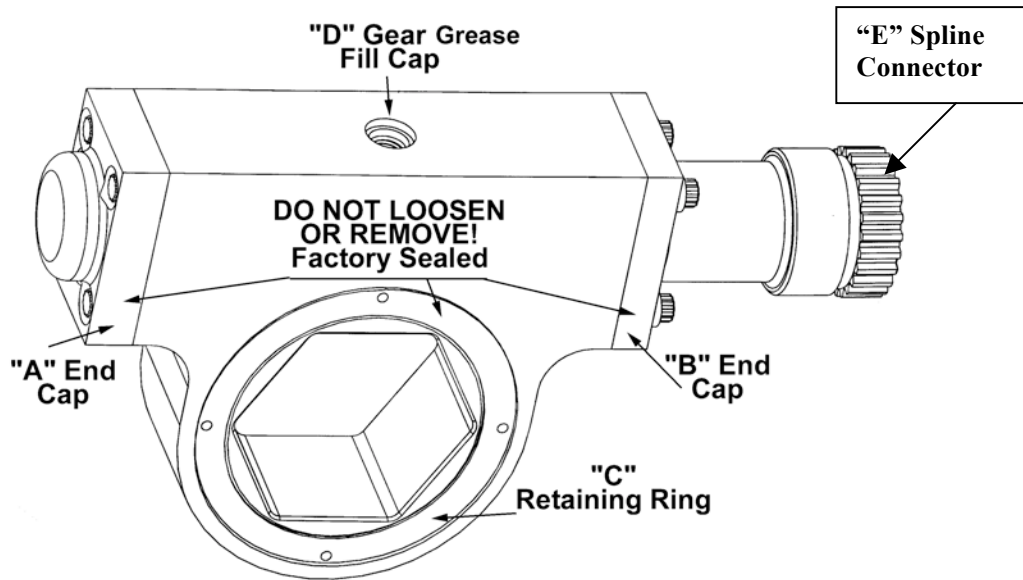


Figure 1

Pinch Point Areas

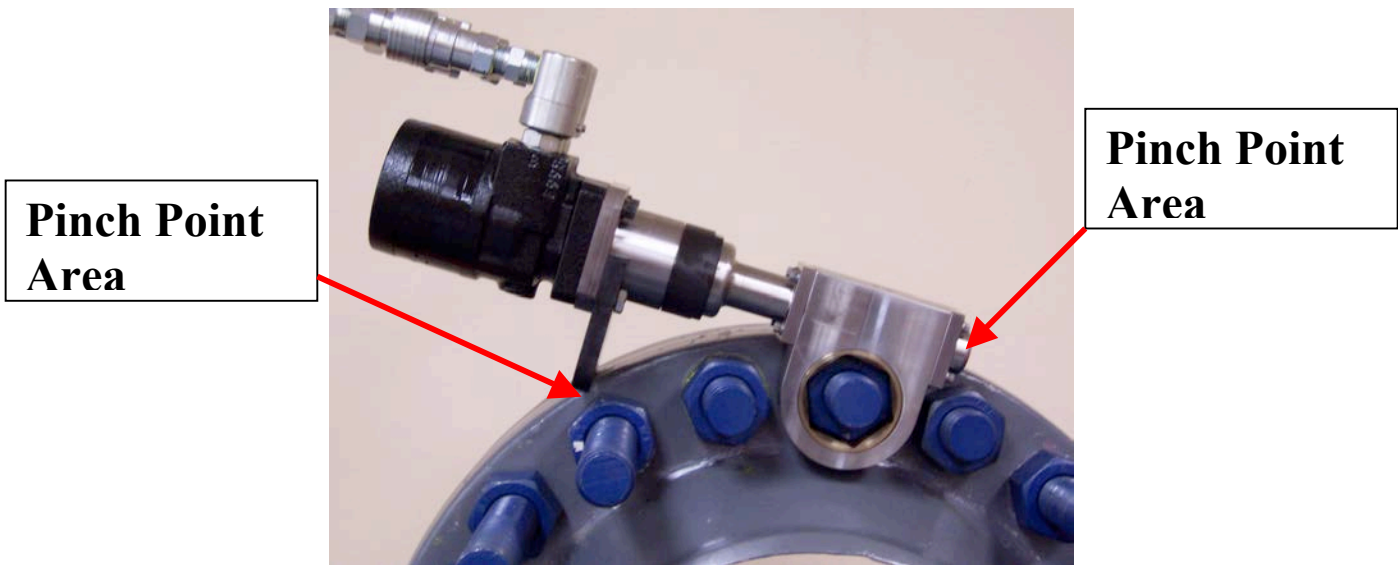


Figure 2

TORQUE CHART

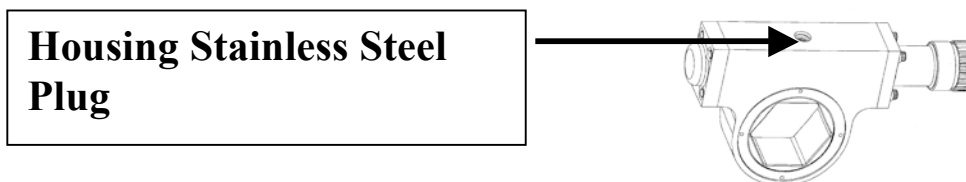
See Provided Torque Chart (Last Sheet)

TROUBLE SHOOTING

SYMPTOMS	CAUSE	SOLUTIONS
SpinTORQ not turning the correct way. Loosen / Tighten	Incorrect setup of Pendent Block.	Check OMM for the Pump or ST-CU units to ensure correct set-up
SpinTORQ not turning	Hydraulic hose not connected properly.	Reconnect Hydraulic Hose. Ensure that all hydraulic hose quick disconnects are clean.
Torque Value is to High / Low	Pump / ST-CU units are not set to correct setting.	Stop torque procedures Refer to torque chart for correct torque value. On pump / ST-CU ensure that pressure control knob is locked in place.

MAINTENANCE

- After every use rinse and clean the SPINTORQ with fresh water, pat dry and lubricate with light oil film on the wrench head.
- The grease used in the Housing for the Double Enveloping Gear is FASTORQ EP Grease part number FEP-01T. On the top of the Housing is a stainless steel plug remove plug with a 1/8" Allen Wrench (see photo below for location of plug) and with the use of a grease gun pump the FASTORQ FEP-01T (one pound) inside the Housing until you feel resistance. Once resistance is felt stop pumping the grease and reinstall the stainless steel plug. This should be done every 150 hours of operation. FASTORQ FEP-01T is purchased through FASTORQ. See Assistance section of this manual page 18.
- Each SpinTORQ is supplied with a complementary tube of FEP-01T



MAINTENANCE WARNING

- **Never disassemble the Housing this will VOID the guarantee.** Return tool to FASTORQ for evaluation.

STORING TIPS

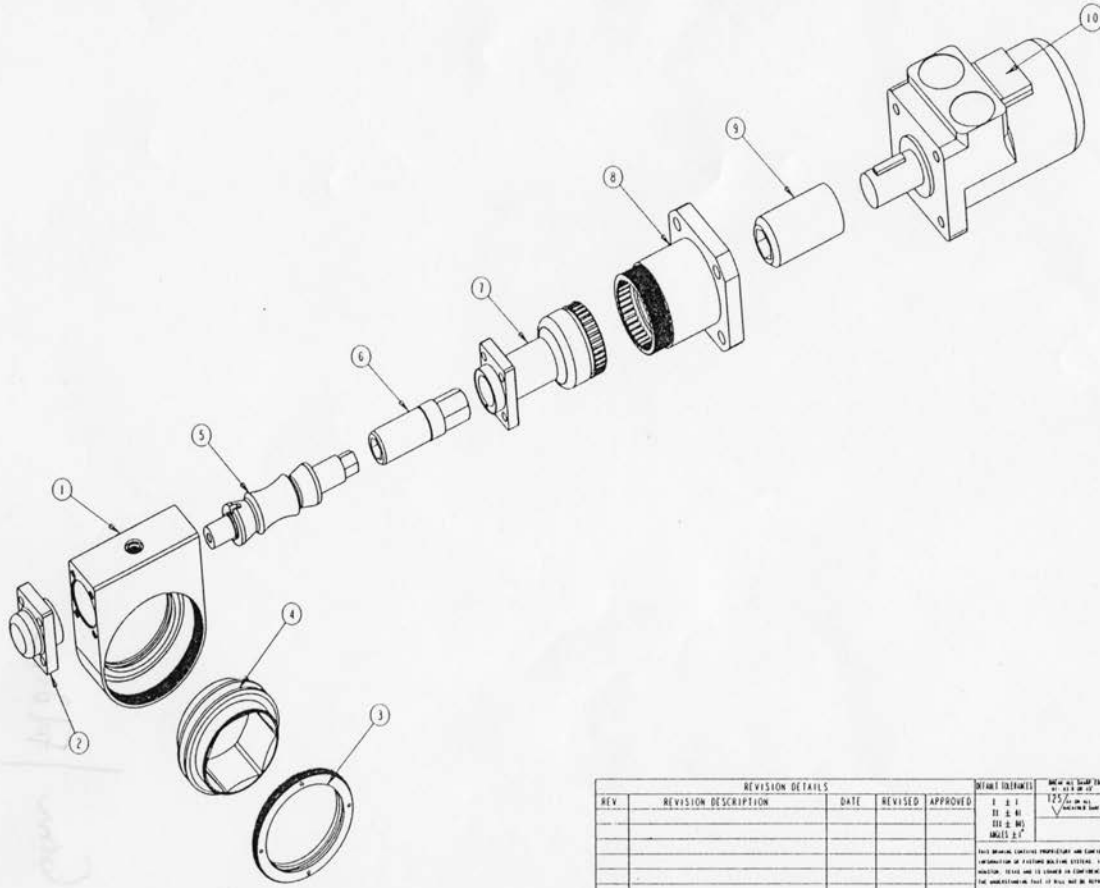
- Rinse and clean the SPINTORQ with fresh water after every job, and lubricate with light oil film on the wrench head.
- Store in a dry cool area.

OVERALL VIEW



EXPLODED VIEW SPINTORQ & MOTOR ASSEMBLY

ITEM	DESCRIPTION	PART NUMBER													
		1L360-102	1L360-104	1L360-107	1L360-110	1L360-113	1L360-200	1L360-203	1L360-206	1L360-209	1L360-212	1L360-215	1L360-302	1L360-308	1L360-314
1	HOUSING			B2K027			B2K079	C2K323	C2K334	C2K343	C2K353		C2K001		
2	FRONT CAP			A2K066			A2K076	A2K325	A2K336	B2K345	B2K355		B2K003		
3	GEAR BEARING			A2K032			A2K078	A2K324	A2K335	B2K344	B2K354		A2K007		
4	GEAR	A2K094	A2K095	A2K096	A2K097	A2K098	B2K116	B2K081	B2K321	B2K331	B2K332	B2K341	B2K351	B2K361	B2K002
5	SHAFT			B2K067			B2K080		B2K322	B2K333		B2K342	B2K352		B2K006
6	SOCKET			A2K070							A2K074				
7	REAR CAP			B2K068			B2K077	B2K326	B2K337	B2K346	B2K356		B2K025		
8	SPLINE ADAPTER							A2K026							
9	MOTOR ADAPTER							A2K005							
10	HYDRAULIC MOTOR			TE0045FS100AAAA			TE0065FS100AAAA	TE0130FS100AAAA	TE0165FS100AAAA	TE0365FS100AAAA					
	CENTER-TO-CENTER DISTANCE			1.500			2.000	2.250	2.500	2.750	3.000		3.500		
	GEAR RATIO			30:1			30:1	40:1	50:1	43:1	50:1		50:1		



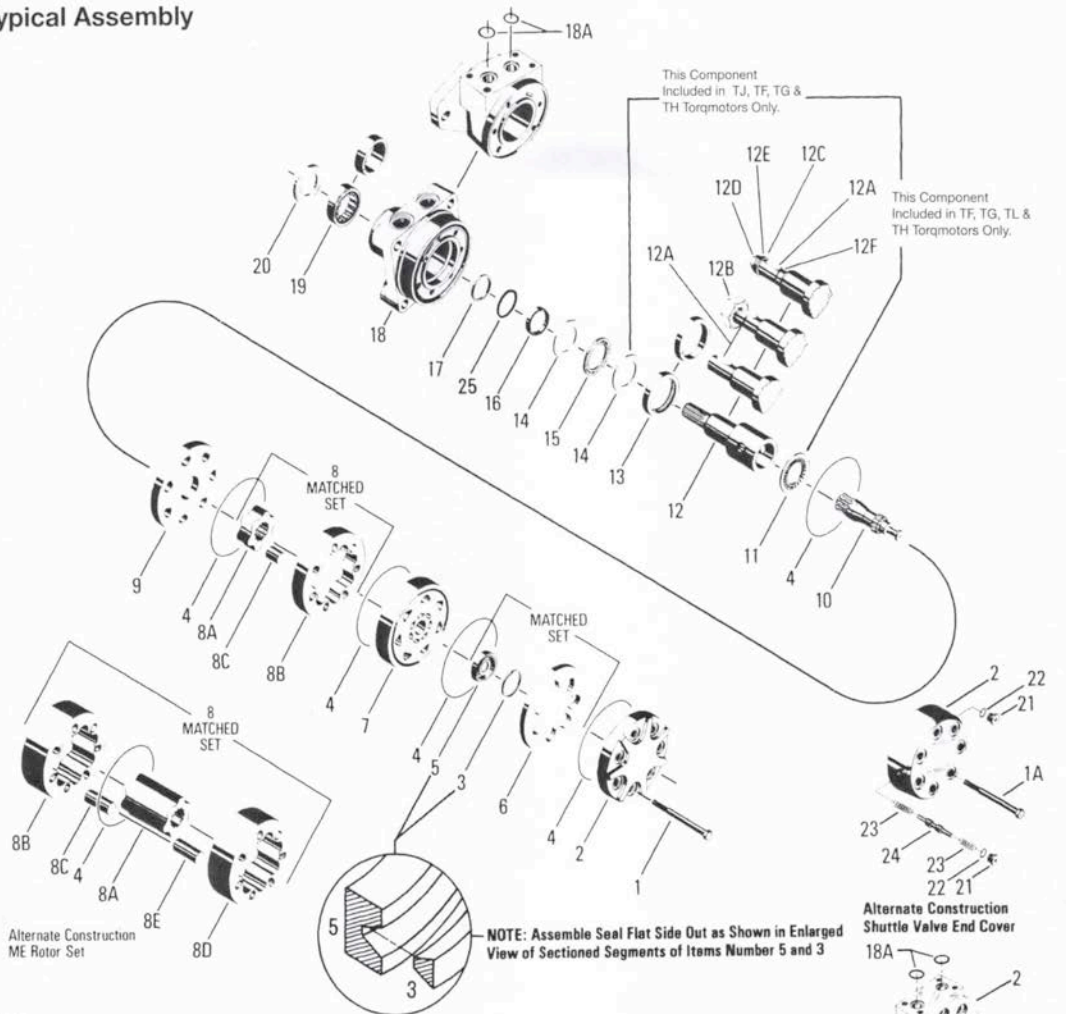
REVISION DETAILS					DRAWN (EXEMPT)		REV'D BY		DATE		FASTORO		SHEET 1 OF 1	
REV.	REVISION DESCRIPTION	DATE	REVISED	APPROVED	BY	DATE	BY	DATE	BY	DATE	FASTORO	FASTORO	FASTORO	FASTORO

TE MOTOR TYPICAL ASSEMBLY

HY13-1512-006-M1/USA
Torqmotor™ Exploded View

Torqmotor™ Service Procedure
TC, TS, TB, TE, TJ, TF, TG, TH and TL Series

Typical Assembly



Item

Item No.	Description
1.	Special Bolts (5, 6, or 7)
1a.	Special Bolts (7)
1b.	Special Bolts (7)
1c.	Special Bolts (7)
2.	End Cover
3.	Seal Ring-Commutator
4.	Seal Ring (5)
5.	Commutator
6.	Commutator Ring
7.	Manifold
8.	Rotor Set
8a.	Rotor
8b.	Stator or Stator Half
8c.	Vane (7)
8d.	Stator Half
8e.	Vane (7)
9.	Wear Plate
10.	Drive Link
11.	Thrust Bearing
12.	Coupling Shaft
12a.	Key
12b.	Nut
12c.	Washer
12d.	Bolt
12e.	Lockwasher
12f.	Retaining Ring
13.	Bearing/Bushing, Inner
14.	Thrust Washer
15.	Thrust Bearing
16.	Seal
17.	Backup Ring
18.	Housing
18a.	O-Ring (2)
19.	Bearing/Bushing, Outer
20.	Dirt & Water Seal
21.	Plug (2)
22.	O-Ring (2)
23.	Spring
24.	Valve (Shuttle or Relief)
25.	Backup Washer

= Items not sold separately. Sold as matched sets only.

TE MOTORS SERVICE PARTS LIST CHART

HY13-1512-006-M1/USA
TE Service Parts List Chart

Torqmotor™ Service Procedure
TC, TS, TB, TE, TJ, TF, TG, TH and TL Series

Chart Use Example:

TE0045AS010AAAB Torqmotor™ includes part numbers listed to the right of TE (SERIES), 0045 (DISP), AS (MOUNTING/PORTING), 01(SHAFT), 0 (ROTATION), and AAAB (OPTION) shown in the left hand column of the chart.

Caution:

The charted component service information is for the Torqmotors listed only. Refer to the original equipment manufacturer of the equipment using the Torqmotor for assembly numbers not listed below.

SERIES	EXPLODED VIEW										
	ITEM #	5 & 6	7	9	[†] 13	14	15	17	[†] 19	20	25
	DESCRIPTION	COMMUTATOR & RING ASSY	MANIFOLD (SEE NOTE)	WEAR PLATE	BEARING	THRUST WASHER	THRUST BEARING	BACKUP WASHER	BEARING	DIRT & WATER SEAL	BACKUP WASHER
TE-	Service Part #	MF018000A1	MF015000	477341	069512	028483	065066	028516	065506	478036	028552

DISPLACEMENT GROUP	EXPLODED VIEW				ROTOR				Overall Length	
	ITEM #	1	or	1A or 1C	THICKNESS	8A	8B	10		"L" Dim
	DISPLACEMENT (in ³ /rev)	BOLT (6) [†]	BOLT (6)	BOLT (5)	"L" DIM. OF ROTOR THICKNESS	ROTOR SET	FREE RUNNING ROTOR SET ^{††}	DRIVE LINK		
0036- 2.2	021356				2.750	MF017003	MF017005	MF013000	2.975	
0045- 2.7	021311	021433	021308		3.169	MF027003	MF027005	MF023000	3.021	
0050- 3.0	021311	021444	021308		3.751	MF037003	MF037005	MF033000	3.080	
0065- 4.0	021306	021358	021435		5.001	MF047003	MF047005	MF043000	3.206	
0080- 5.0	021382	021438	021359		6.258	MF057003	MF057005	MF053000	3.334	
0100- 6.0	021357	021308	021445		7.508	MF067003	MF067005	MF063000	3.460	
0130- 8.0	021307	021359	021439		1.0008	MF087003	MF087005	MF083000	3.712	
0165- 9.9	021358	021310	*		1.2508	MF107003	MF107005	MF103000	3.969	
0195- 11.9	021308	021383	021465		1.5008	MF127003	MF127005	MF123000	4.215	
0230- 13.9	021359	021384	021460		1.7508	MF147003	MF147005	MF143000	4.467	
0260- 15.9	021310	021446	021467		2.0008	MF167003	MF167005	MF163000	4.718	
0295- 17.9	021383	021414	*		2.2508	MF187003	MF187005	MF183000	4.970	
0330- 20.0	021384	021459	021448		2.5008	MF207003	MF207005	MF203000	5.220	
0365- 22.6	021460	021448	*		2.8406	MF227003	N/A	MF223000	5.557	
0390- 24.0	021414	021449	021464		3.0030	MF247003	N/A	MF243000	5.716	

[†] Bolts for TE Series front ported units are the same as rear ported units.
^{††} Free running rotorset is not available in 0365 or 0390 displacements.
* Not released.

FRONT PORTING	EXPLODED VIEW						SPEED SENSOR	
	ITEM #		2	^{††} 8	18	^{††} 18A	18	18
	DESCRIPTION	6 BOLT	5 BOLT HSG	6 BOLT HSG		6 BOLT HSG		
	MOUNTING	PORTING	END COVER	SERVICE PART #	SERVICE PART #	O-RING (2)	SERVICE PART #	SENSOR
MS-	Standard (4 Bolt)	7/8" O-Ring	MF016007	MF012014A1	MF012214A1		MF012314A1	455069
AS-	SAE A (2 Bolt)	7/8" O-Ring	MF016007	MF012001A1	MF012201A1		MF012301A1	455069
US-	Wheel Mount	7/8" O-Ring	MF016007	MF012002A1	MF012202A1		MF012302A1	455069
FS-	4 Bolt	7/8" O-Ring	MF016007	MF012003A1	MF012203A1		MF012303A1	455069
AM-	SAE A (2 Bolt)	Manifold	MF016007	MF012004A1	MF012204A1	032790	MF012304A1	455069
FM-	4 Bolt	Manifold	MF016007	MF012005A1	MF012205A1	032790		
MM-	Standard (4 Bolt)	Manifold	MF016007	MF012049A1	MF012249A1	032790		
AP-	SAE A (2 Bolt)	1/2" NPTF	MF016007	MF012006A1	MF012206A1		MF012306A1	455069
FP-	4 Bolt	1/2" NPTF	MF016007	MF012007A1	MF012207A1		MF012307A1	455069
AT-	SAE A (2 Bolt)	1/2" BSPF	MF016007	MF012011A1	MF012211A1			

HOUSING GROUP	EXPLODED VIEW						SPEED SENSOR	
	ITEM #		2	^{††} 8		18	18	
	DESCRIPTION	5 BOLT	5 BOLT HSG		5 BOLT HSG			
	MOUNTING	PORTING	END COVER	SERVICE PART #	SERVICE PART #	SERVICE PART #	SENSOR	
MR-	Standard (4 Bolt)	Rear Port (3/4"-16 SAE O-Ring)	MF016001	MF012021A1				
UR-	Small Wheel Mount	Rear Port (3/4"-16 SAE O-Ring)	MF016001	MF012009A1		N/A	455069	
FR-	4 Bolt Mount	Rear Port (3/4"-16 SAE O-Ring)	MF016001	MF012010A1				
AR-	SAE A (2 Bolt)	Rear Port (3/4"-16 SAE O-Ring)	MF016001	MF012008A1		N/A	455069	

NOTE: Rear ported TE motors always have 5 bolts at the back end cover.

WARRANTY

FASTORQ warrants its products against defects in workmanship and materials for 1 year from date of delivery.

Warranty does not cover ordinary wear and tear, abuse, and misuse, overloading, or altered products.

REPAIR AND SERVICE

FASTORQ shall provide complete and prompt service on all its products. It is recommended to return the unit to the factory in the event of a failure or a general maintenance requirement. FASTORQ's trained and experienced technicians can properly inspect and repair the unit.

ASSISTANCE

FASTORQ provides technical support and assistance to all its customers. Help is available 7 days a week, 24 hours a day by calling 281.449.6466 or Toll Free 1.800.231.1075.

Please contact us whenever you have a question or need assistance. We may be reached by phone or e-mail.

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