

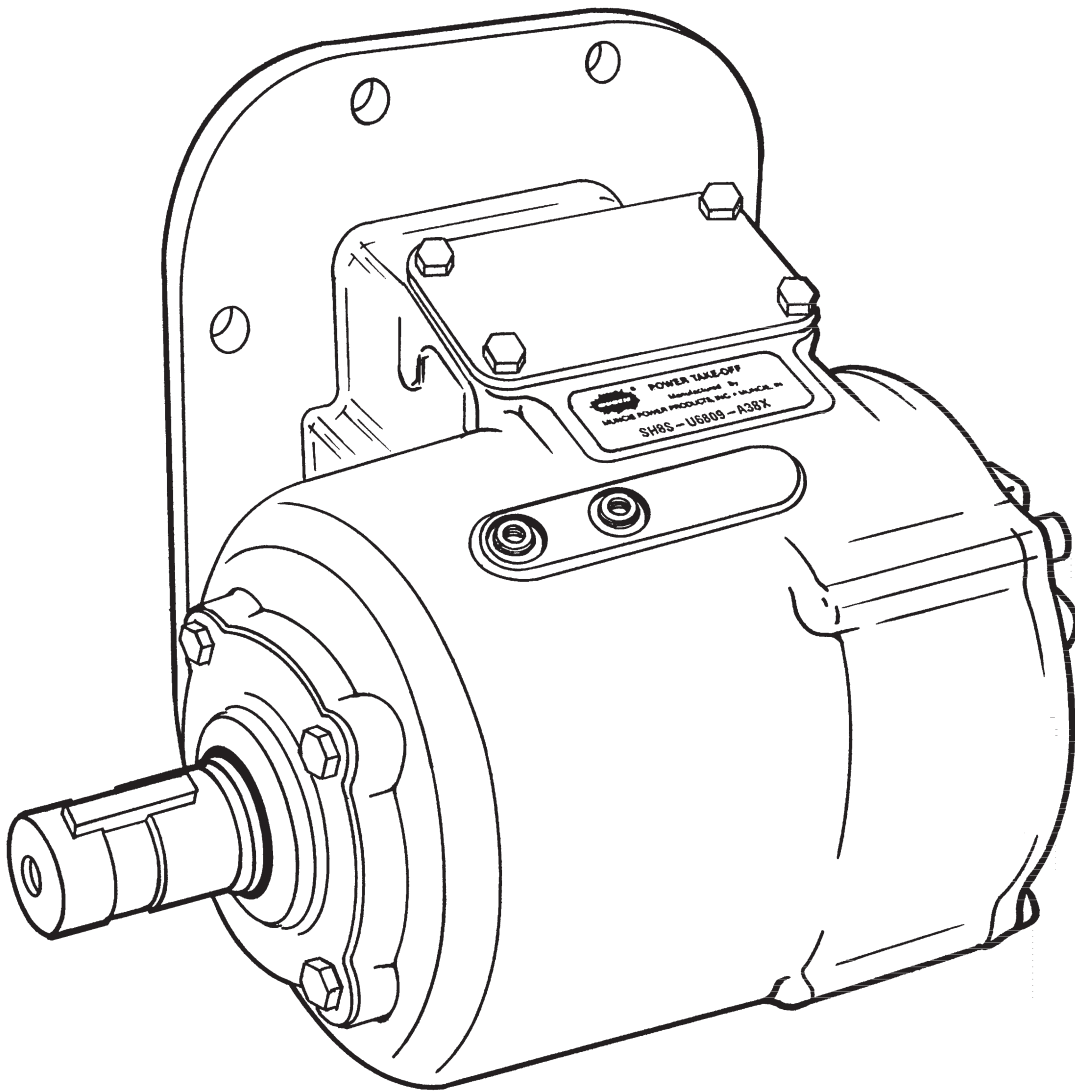


Muncie®
Power
Products

SH6 & SH8 SERIES

POWER TAKE-OFF

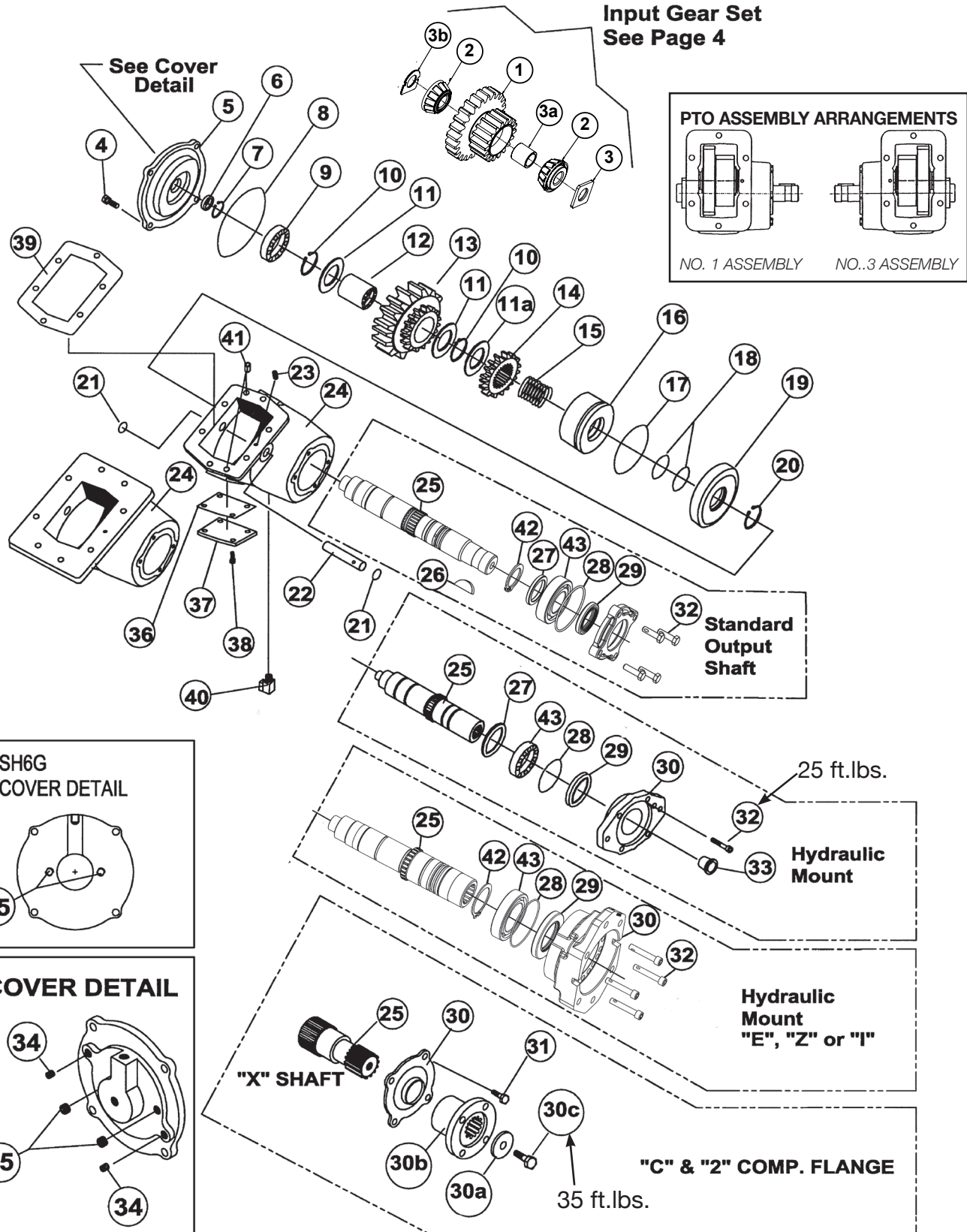
PARTS LIST AND SERVICE MANUAL



SH6 & SH8 SERIES PTO EXPLODED VIEW

ITEM NO.	TORQUE FT.LBS.	NOTES
4	16	Loctite 242
23	5	
32	25	Loctite 242
30C	35	
34		Loctite 242
38	16	

**Input Gear Set
See Page 4**



MODEL NUMBER CONSTRUCTION

SH 6S-M65 07 E 1 B X

PTO Type

SH — SH Series

Mounting

6S — SAE 6-Bolt Std. Mount
 6B — SAE 6-Bolt Std. — Metric
 6C — SAE 6-Bolt Deep — Metric
 6D — SAE 6-Bolt Deep Mount
 6K — SAE 6-Bolt Deep — Less Stud Kit
 6L — SAE 6-Bolt Std. — Less Stud Kit
 6N — SAE 6-Bolt Non-Std. Mtg. — (Jatco)
 8S — SAE 8-Bolt Std. Mount
 8B — SAE 8-Bolt Std. — Metric
 8C — SAE 8-Bolt Deep — Metric
 8D — SAE 8-Bolt Deep Mount
 8F — SAE 8-Bolt Special — E80
 8K — SAE 8-Bolt Deep — Less Stud Kit
 8L — SAE 8-Bolt Std. — Less Stud Kit

Transmission Input Gear Options

E80 — Eaton/Paccar 8.048P 20PA 28.9 RH
 F63 * — Fuller* 6.35P 20°PA 22 LH *
 F66 * — Fuller* 6.65P 20°PA 21.5 LH *
 F79 * — Fuller* 7.0P 23°PA 21.5 LH *
 M65 — Mack 6.48P 17.5°PA Spur
 S60 * — Spicer* 6P 17.5°PA 26.17° LH *
 S70 * — Spicer* 7P 17.5°PA 26.07° LH *
 U60 — Universal 6P 20°PA Spur
 U68 — Universal 6P or 6/8P 20°PA Spur
 S68 — Universal 6P or 6/8P 20°PA Spur

Speed Ratios

05 — .47:1
 07 — .70:1
 09 — .87:1
 12 — 1.15:1
 13 — 1.33:1 (8-Bolt Only)*

NOTE * Items with an asterisk are obsolete. They will be available as service parts only, until inventory is depleted.

TABLE A - ITEM #1 INPUT GEAR *service parts sold as sub-assembly only*

SUB-ASS'Y	INPUT GEAR	DESCRIPTION (#T)
03TA6348	03T63302	Input Gear E8007 (32/23)
03TA6349	03T63314	Input Gear E8009 (32/28)
03TA6350	03T63318	Input Gear E8012 (32/30)
03TA4712 *	03T37086 *	Input Gear F6307 (24/23) *
03TA4713 *	03T38356 *	Input Gear F6309 (24/26) *
03TA4700 *	03T37087 *	Input Gear F6312 (24/30) *
03TA4701 *	03T38502 *	Input Gear F6607 (24/23) *
03TA4702 *	03T38503 *	Input Gear F6609 (24/26) *
03TA4703 *	03T38504 *	Input Gear F6612 (24/30) *
03TA4704 *	03T38195 *	Input Gear F7005 (26/18) *
03TA4705 *	03T38194 *	Input Gear F7007 (26/23) *
03TA4568 *	03T37070 *	Input Gear M6505 (26/18) *
03TA4569 *	03T37058 *	Input Gear M6507 (26/23) *
03TA4570	03T37059	Input Gear M6509 (26/26)
03TA4571 *	03T37060 *	Input Gear M6512 (26/30) *
03TA4573 *	03T37062 *	Input Gear S6807 (26/23) *
03TA4574 *	03T37063 *	Input Gear S6809 (26/26) *
03TA4575	03T37064	Input Gear S6812 (26/30)
03TA4576	03T37158	Input Gear S6813 (26/32)
03TA4706 *	03T37134 *	Input Gear S7109 (29/26) *
03TA4580	03T37069	Input Gear U6005 (24/18)
03TA4581	03T37038	Input Gear U6807 (24/23)
03TA4582	03T37039	Input Gear U6809 (24/26)
03TA4583	03T37040	Input Gear U6812 (24/30)
03TA4584 *	03T37041 *	Input Gear U6813 (24/32) *

Sub-assembly includes: input gear, measured cone spacer, input bearings. Requires input gear shim item #3 (Table B) for proper installation, purchase Shim Kit 18TK4586 sold separately.

*** Requires Bearing (Item 10T35776), Bearing Shim (Item 3) and Cone Spacer (Item 3a) Order with replacement gear.

Special Features

X — None
 P — Pressure Lube
 R — Pulse Generator/No Pressure Lube
 S — Pulse Generator/Pressure Lube

Output Types

B — 1½ Round 5/16 KW
 C — 1410 Companion Flange
 E — SAE "C" 1¼"-14T, SAE "C" 2- & 4-Bolt
 I — DIN 5462
 K — SAE "B" ¾"-13T, SAE "B" 2- & 4-Bolt
 P — SAE "BB"1"-15T, SAE "B" 2- & 4-Bolt
 Q — SAE "B" ¾"-13T, SAE "A" 2-Bolt
 S — SAE "B" ¾"-13T, SAE "B" 2-Bolt
 T — ¾"-11T, SAE "A" 2-Bolt
 Z — SAE "C" 1¼"-14T, SAE "B" 2- & 4-Bolt
 2 — DIN 100 Companion Flange

Assembly Arrangements (See Page 2)

1 — Right Side Shaft Low
 3 — Left Side Shaft Low

Shifter Types

A — Manual/Air
 E — Electric/Air 12 V
 F — Electric/Air 24 V
 K — Manual/Air 24 V
 M — Constant Mesh
 P — Manual Air (Less Installation Kit)

TABLE B - ITEM #3 BEARING SHIM

SHIM	DESCRIPTION	NOMINAL	TOLERANCE
18T41437	Bearing Shim	0.114	0.1150 / 0.1130
18T41438	Bearing Shim	0.116	0.1175 / 0.1155
18T41439	Bearing Shim	0.119	0.1200 / 0.1180
18T41440	Bearing Shim	0.121	0.1225 / 0.1205
18T41441	Bearing Shim	0.124	0.1250 / 0.1230
18T41442	Bearing Shim	0.126	0.1275 / 0.1255
18T41443	Bearing Shim	0.129	0.1300 / 0.1280
18T41444	Bearing Shim	0.131	0.1325 / 0.1305
18T41445	Bearing Shim	0.134	0.1350 / 0.1330
18T41446	Bearing Shim	0.136	0.1375 / 0.1355
18T41447	Bearing Shim	0.139	0.1400 / 0.1380
18T41448	Bearing Shim	0.141	0.1425 / 0.1405
18T41449	Bearing Shim	0.144	0.1450 / 0.1430
18T41450	Bearing Shim	0.146	0.1475 / 0.1455
18T41451	Bearing Shim	0.149	0.1500 / 0.1480

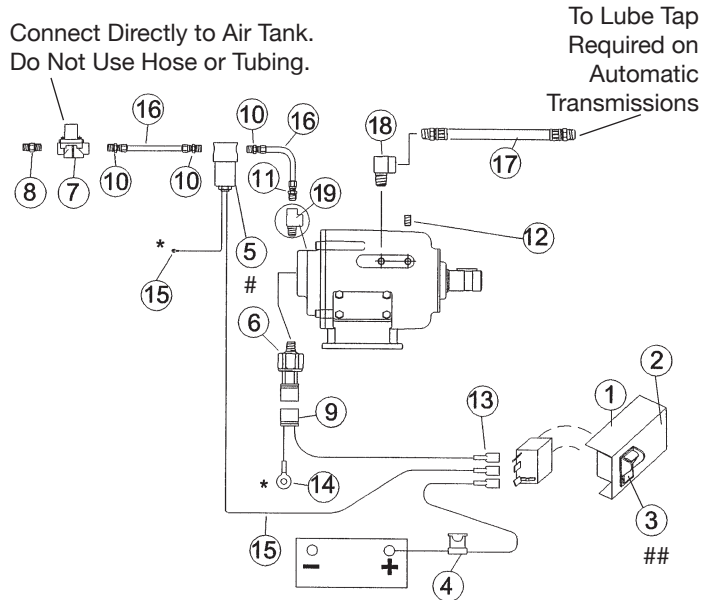
Shim Kit 18TK5233 (Include 1 each of every item #3 shim)

TABLE C - ITEM #3A CONE SPACER

SPACER	DESCRIPTION	DIMENSION
18T38640	Cone Spacer	0.983 / 0.981
18T38641	Cone Spacer	0.980 / 0.978
18T38642	Cone Spacer	0.977 / 0.975
18T38643	Cone Spacer	0.974 / 0.972
18T38644	Cone Spacer	0.971 / 0.969
18T38635	Cone Spacer	0.998 / 0.996
18T38636	Cone Spacer	0.995 / 0.993
18T38637	Cone Spacer	0.992 / 0.990
18T38638	Cone Spacer	0.989 / 0.987
18T38639	Cone Spacer	0.986 / 0.984
18T38645	Cone Spacer	0.968 / 0.966
18T38646	Cone Spacer	0.965 / 0.963
18T38647	Cone Spacer	0.962 / 0.960
18T38648	Cone Spacer	0.959 / 0.957
18T38649	Cone Spacer	0.956 / 0.954

SH6 & SH8 INSTALLATION KITS

SH SERIES ELECTRIC/AIR SHIFT SYSTEM KIT NO. 48TK3958 12 V ELECTRIC AIR SHIFT



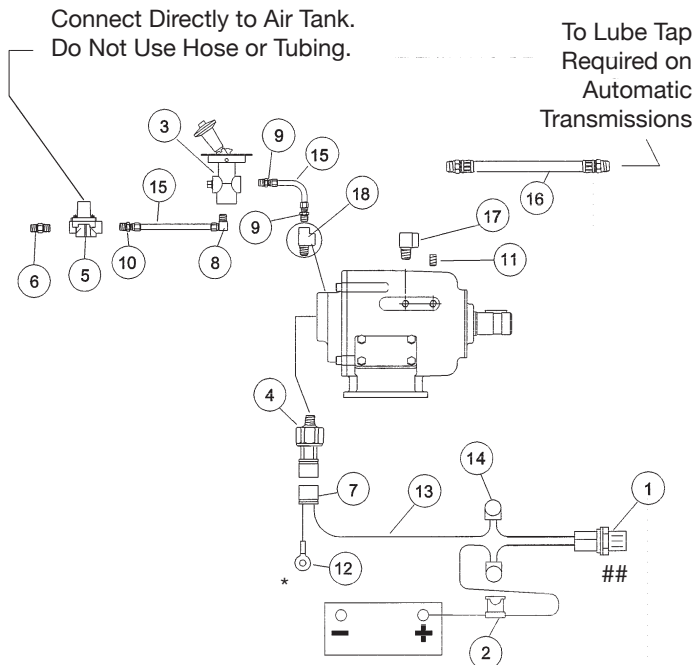
* Ground to Frame

Solenoid to be mounted in engine compartment out of direct spray of road contaminants.

Green Light to turn "ON" when PTO switch is activated.

ITEM	QTY	PART NO.	DESCRIPTION
1	1	36MA1005	Switch Bracket
2	1	36M01007	Face Plate
3	1	30T35687	Rocker Switch 12 V
4	1	33T36299	Fuse Assembly
5	1	35M30692	Solenoid Valve 12 V
6	1	30T60228	Pressure Switch
7	1	31M15759	Pressure Protection Valve
8	1	44MB2164	Pipe Nipple
9	1	34T36941	Wiring Pigtail
10	3	44MB6844	Male Connector
11	1	44MB6842	Male Connector
12	1	25T21684	Pipe Plug (Use as Req.)
13	3	34M18250	Female Spade Connector
14	2	34M18009	Ring Terminal
15	1	37T42512	Electric Wire 12 Ft.
18	1	43T37385	Orifice Fitting ("P" Special Option)
Parts Included with PTO (Not packaged in Kit No. 48TK3958)			
16	1	45M44430	Air Tubing 30 Ft.
19	1	44MB2252	Street Tee
Parts Included with PTO ("P" Special Option)			
17	1	45M4R536	Lube Hose Ass'y ("P" Special Option)
For 24 V Electric/Air Kit No. 48TK3959, Substitute:			
3	1	30T35712	Rocker Switch 24 V
5	1	35M31692	Solenoid Valve 24 V

SH SERIES MANUAL SHIFT SYSTEM KIT NO. 48TK3926 MANUAL AIR SHIFT - 12 V LIGHT

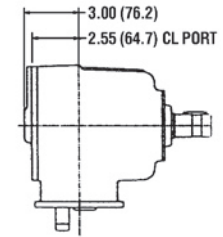
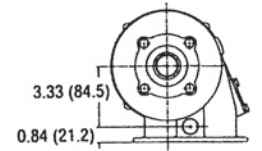
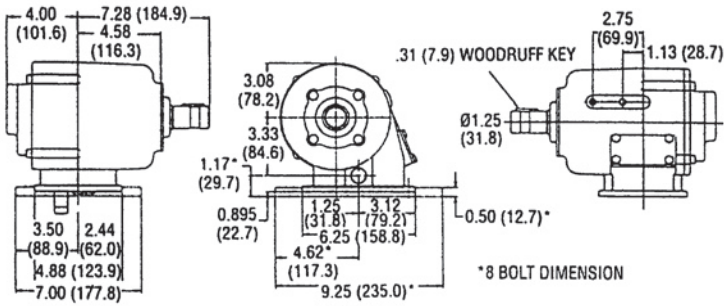


* Ground to Frame

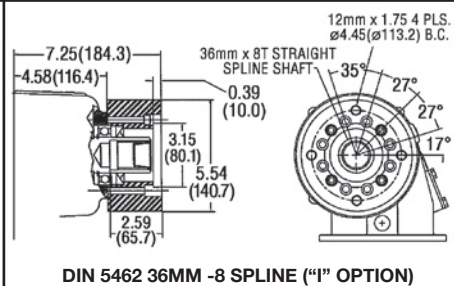
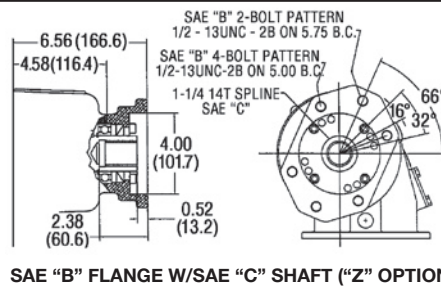
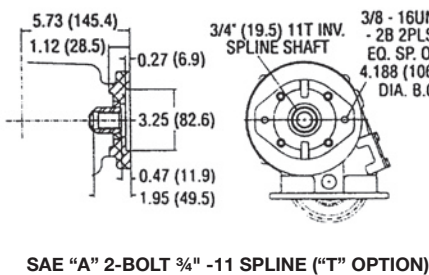
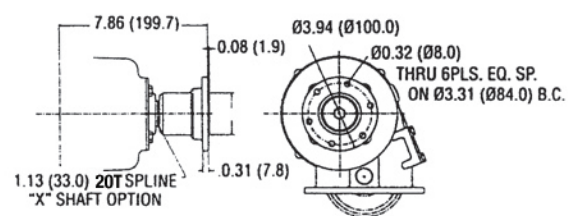
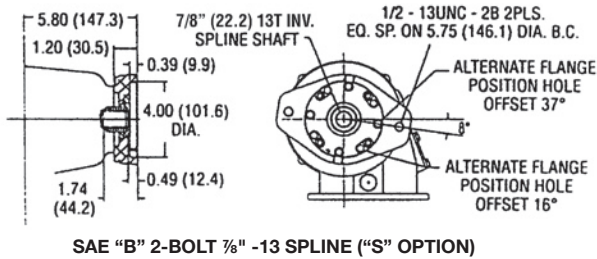
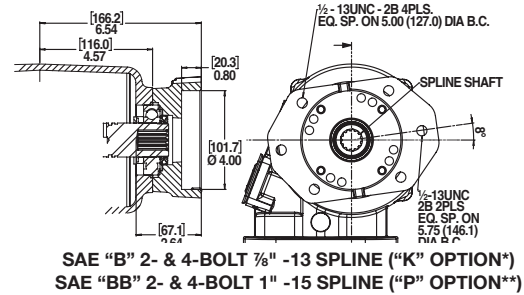
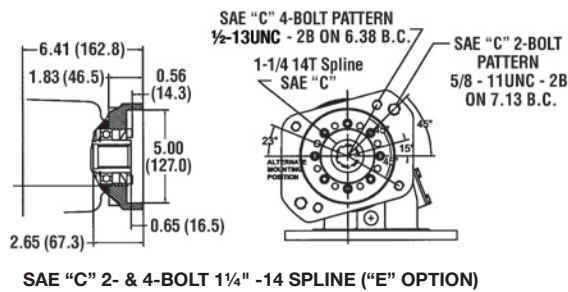
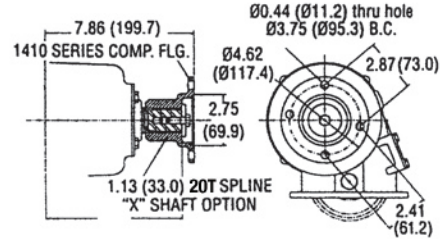
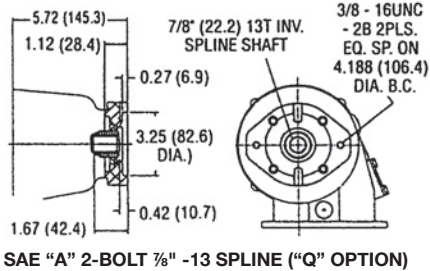
Red Light to turn "ON" when PTO switch is activated.

ITEM	QTY	PART NO.	DESCRIPTION
1	1	32M12001	Light Assembly 12 V
2	1	33T36299	Fuse Assembly
3	1	35M18653	Air Valve
4	1	30T60228	Pressure Switch
5	1	31M15759	Pressure Protection Valve
6	1	44MB2164	Pipe Nipple
7	1	34T36941	Wiring Pigtail
8	1	44MB6942	Fitting - Elbow
9	2	44MB6842	Male Connector
10	1	44MB6844	Male Connector
11	1	25T21684	Pipe Plug
12	2	34M18009	Ring Terminal
13	1	37T42512	Electric Wire 12 Ft.
14	3	34T36362	Closed End Crimp
N.S.	1	36MA1004	Dash Bracket
N.S.	1	36M01005	Face Plate
N.S.	1	36MK1007	Bolt Kit
17	1	43T37385	Orifice Fitting ("P" Special Option)
Parts Included with PTO (Not packaged in Kit No. 48TK3926)			
15	1	45M44430	Air Tubing 30 Ft.
18	1	44MB2252	Street Tee
Parts Included with PTO ("P" Special Option)			
16	1	45M4R536	Lube Hose Ass'y ("P" Special Option)
For 24 V Manual Air Kit No. 48TK3929, Substitute:			
1	1	32M24001	Light Assembly 24 V

SH6 & SH8 DIMENSIONS IN INCHES (MM)



STANDARD 1 1/4" ROUND KEYED SHAFT ("B" OPTION)



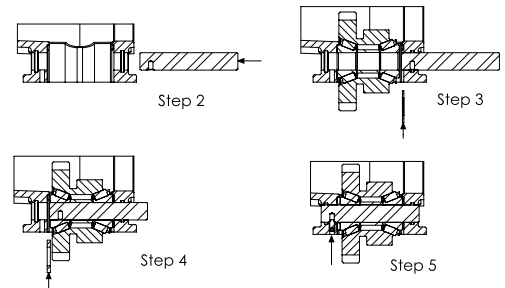
Note: * 7/8" (22.2) -13T ("K" Only)
** 1" (25.4) -15T ("P" Only)

SH6 & SH8 ASSEMBLY INSTRUCTIONS

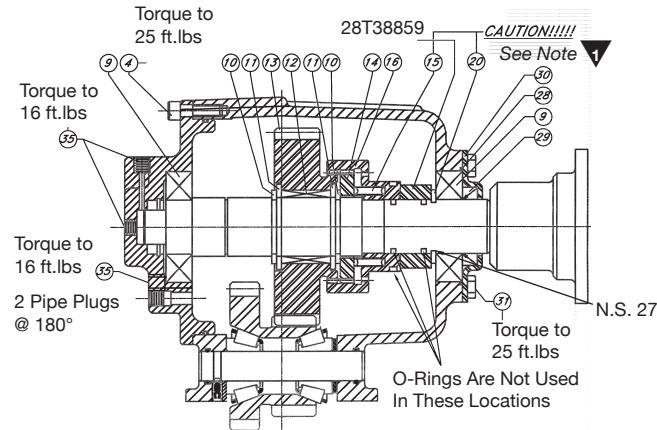
FOR PROPER INSTALLATION AND ADJUSTMENT OF THE TAPERED INPUT BEARINGS

The input gear must be purchased as a kit which includes the input gear, bearings and bearing (cone) spacer. This must remain as a group and not interchanged with any other gears.

1. Lubricate bearings and races with lithium based bearing grease.
2. Start the idler shaft into the housing, opposite the set screw, ensuring the set screw hole in the shaft will line up with the PTO housing set screw once shaft is in position.
3. Place gear set into housing. Gear, bearing, and bearing (cone) spacer must remain together. Tap the idler shaft into the housing far enough to place shim 18T41452 on shaft.
4. Tap the idler shaft through the gear set, leaving enough room to place the second shim on the shaft on the other side of the gear set. Select a shim that is force fit and tap shim into place.
5. Tap the idler shaft the remainder of the way into the housing and install set screw, ensuring it lines up with the set screw hole in the shaft.



Note the location of the shim in Step #4 is on the opposite side of the gear than the set screw.



CONSTANT MESH OPTION

CAUTION: WHEN ASSEMBLING OR DISASSEMBLING THESE PARTS!!!

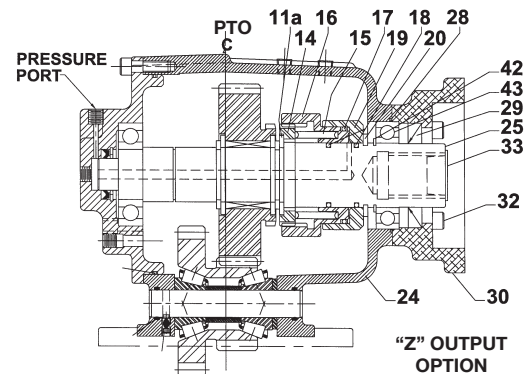
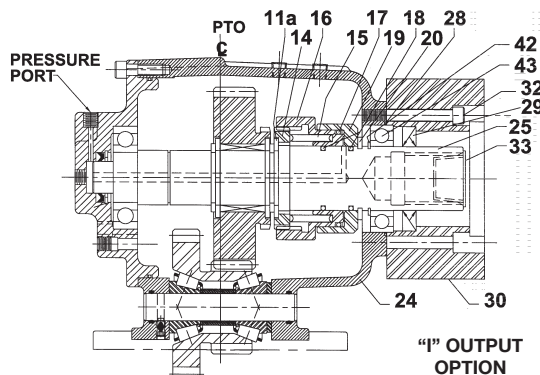
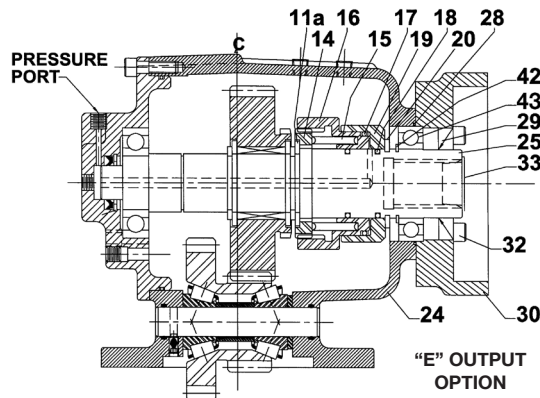
Approximately 130 lbs. force is required to compress spring (Item 15) and install spacer (Item 28T38859) and snap ring (Item 20) on shaft (Item 32).

The Constant Mesh version of the SH Series is accomplished by inserting a spacer, P.N. 38T38859, in place of the piston cup. Disassemble the SH Series output shaft assembly and remove the piston cup and O-Rings and assemble the unit as shown above.

Plug all pip ports with appropriate plugs before installing unit.

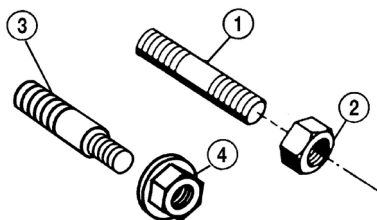
Assemblies with "E", "I", or "Z" Output Option

ITEM	QTY	PART NO.	DESCRIPTION
11A	1	21T38346	Washer
14	1	02T38339	Gear, Clutch
15	1	27T38342	Spring
16	1	49T38340	Piston
17	1	12T36867	O-Ring
18	2	12T36053	O-Ring
19	1	49T38341	Piston Cup
20	1	24T36040	Snap Ring
24	1	See Pg. 3	Housing
25	1	06T38355	Shaft "I"
	1	06T38345	Shaft "Z"
	1	06T38718	Shaft "E"
28	1	12T38344	O-Ring
29	1	11T64141	Seal
30	1	14T38354	Adapter "I"
	1	14T38343	Adapter "Z"
	1	14T38719	Adapter "E"
32	4	19T96512	Cap Screw "I"
	4	19T38249	Cap Screw "Z"
	8	19M84478	Cap Screw "E"
33	1	25T37767	Cap Plug "I"
	1	25T35936	Cap Plug "E" "Z"
41	1	24T38347	Snap Ring
43	1	10T38248	Bearing



MOUNTING KITS

6-BOLT MOUNTING KIT



20TK4418 STANDARD (SH6S, SH6D)			
ITEM	QTY	PART NO.	DESCRIPTION
1	4	20M38150	Stud
2	4	22T39282	NUT
3	2	20T37032	Step-Stud
4	2	22T37605	Lock Nut
N.S.	1	MC00-02	Instruction Card

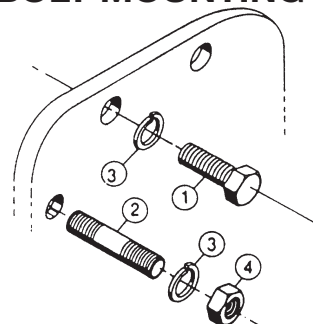
20TK4359 METRIC (SH6B, SH6C)			
ITEM	QTY	PART NO.	DESCRIPTION
1	4	20M39040	Stud
2	4	22T39282	Nut
3	2	20T37952	Step-Stud
4	2	20T37605	Lock Nut
N.S.	1	MC00-02	Instruction Card

20TK4360 METRIC (SH6B, A6907)			
ITEM	QTY	PART NO.	DESCRIPTION
1	4	20M39045	Stud
2	4	22T39282	Nut
3	2	20T38391	Step-Stud
4	2	22T37605	Lock Nut
N.S.	1	MC00-02	Instruction Card

20TK4440 METRIC (SH6B, I84)			
ITEM	QTY	PART NO.	DESCRIPTION
1	4	20T38143	Stud
2	4	22T39282	Nut
3	2	20T38582	Step-Stud
4	2	22T37605	Lock Nut
N.S.	1	MC00-02	Instruction Card

20TK4046 METRIC (SH6F, F84)			
ITEM	QTY	PART NO.	DESCRIPTION
1	4	20T38143	Stud
2	4	22T39282	Nut
3	2	20T38582	Step-Stud
4	2	22T37605	Lock Nut
N.S.	1	MC00-02	Instruction Card

8-BOLT MOUNTING KIT

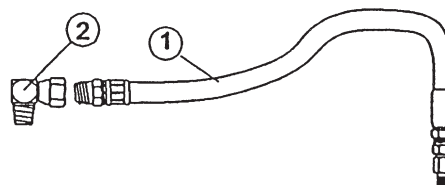


20MK8800 STANDARD (SH8S, SH8D)			
ITEM	QTY	PART NO.	DESCRIPTION
1	6	19M44138	Cap Screw
2	2	20M44175	Stud
3	8	21ML4375	Lock Washer
4	2	22MX4420	Nut

20MKM802 METRIC (SH8B, SH8C)			
ITEM	QTY	PART NO.	DESCRIPTION
2	8	20M47055	Stud
3	8	21ML4375	Lock Washer
4	8	22MX4420	Nut

20TK6221 METRIC (SH8F-E80)			
ITEM	QTY	PART NO.	DESCRIPTION
2	8	20T64324	Metric Stud
3	8	21ML4375	Lock Washer
4	8	22MX4420	Nut

LUBE HOSE KIT



43TK3934 HOSE KIT (STANDARD)			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	45M4R536	Hose Assembly Std.
2	1	43M05522	Elbow

SH6 & SH8 SERIES PTO

The SH6 & SH8 Series PTO offers several output shaft choices to accommodate popular pump assemblies. The compact size and high torque capability of the SH PTO permits direct mounting pumps which previously required remote mount. The SH Series PTO is available with pulse generator pick-up (Kit # 16TK3833) for use with the Muncie digital tachometer 38MK2000 (request MP92-04). Contact your Muncie Application Specialist for assistance with this option.



A Member of the Interpump Group

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