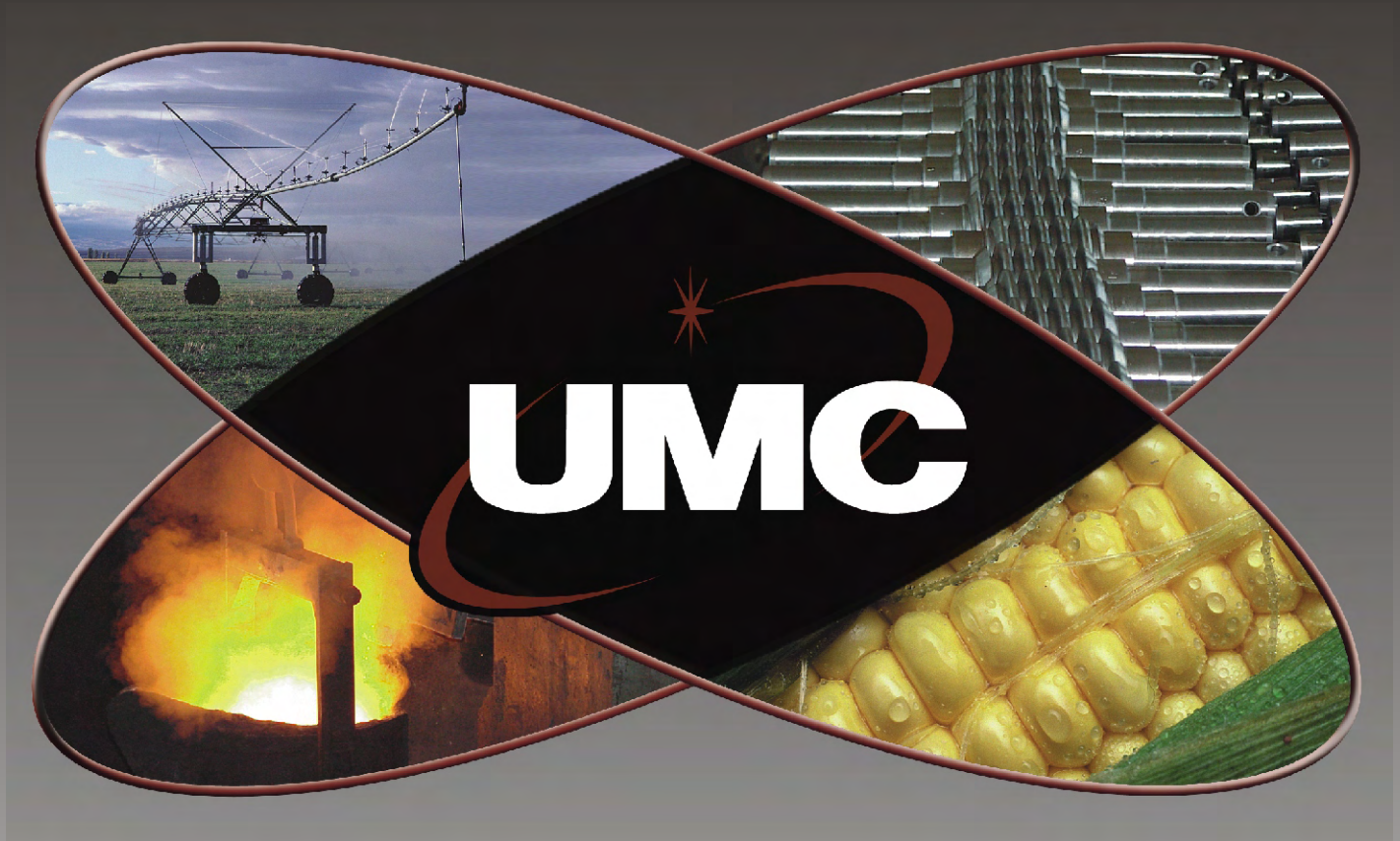


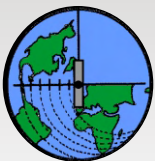
UNIVERSAL MOTION COMPONENTS



IRRIGATION - SPARE PARTS CATALOG

VOLUME 4

UNIVERSAL MOTION COMPONENTS, Co. Inc.



2920 Airway Ave, Costa Mesa, Ca. 92626-6008
Phone: (714) 437-9600 Fax: (714) 437-9700
E-mail: sales@umcproducts.com Web: <http://www.umcproducts.com>

© 2004, Universal Motion Components ®, All Rights Reserved

UNIVERSAL MOTION COMPONENTS

SPARE PARTS CATALOG

MODEL	Description	P/N	PAGE
Wheel Gearboxes			
740-U	Final Drive Gearbox Universal	10141-105A	5
740-UV	Final Drive Gearbox 52:1 Ratio	10141-106A	5
745-U	Final Drive Gearbox 2 ½" Output	10141-145A	7
760-U	Heavy Duty Final Drive Gearbox	10160-101A	9
Moderate	Moderate Duty Final Drive Gearbox	10148-105A	11
725-U	Final Drive Gearbox Universal	06147-105A	13
725-UV	Final Drive Gearbox 52:1 Ratio	06147-106A	13
730-U	Final Drive Gearbox 2 ½" Output	06148-101A	13
720-U	Final Drive Gearbox 2" Output	06146-101A	15
Center Drives			
PS 3.5	Powersaver 3.5 Gear Motor, Multi Ratio	06168-101*	19
PS III	Powersaver 3 Gear Motor, Multi Ratio	06165-101*	21
PS II	Powersaver 2 Gear Motor, Multi Ratio	06160-101*	23
CD-1U	Center Drive Gearbox, Multi Ratio	09333-15*A	25
Towable Wheel Gearboxes			
725-TNT	Tow, Non-Tow Wheel Gearbox Universal	10140-101A	29
740-TNT	Tow, Non-Tow Wheel Gearbox Universal	10144-101A	31
740-TNT-UV	Tow, Non-Tow Wheel Gearbox 52:1 Ratio	10144-106A	31
725-UT	Towable Wheel Gearbox	06147-105D	33
OP 725_UT	Towable Output Assembly	06147-122A	35
BT-4B	Bolt on Towbale Hub 4B	04301-114A	37
BT-4	Bolt on Towbale Hub 4	04301-104A	39
BT-3	Bolt on Towbale Hub 3	04300-104A	41
Pin Bracket	Pin and Bracket Assembly	04041-10*A	43
Drive Line Couplers			
011*	Standard Urethane Coupler Assembly	01355-111*	46
021*	Alignment Urethane Coupler Assembly	01355-121*	48
Maintenance			
I	Final Drive Gearbox Maintenance Procedures		53
II	Spur Gear Center Drive Maintenance Procedures		57
III	Worm Gear Center Drive Maintenance Procedures		59
IV	C-Face Motor Maintenance Procedures		61
V	Towable Hub Assembly Maintenance Procedures		62
VI	Drive Line Coupler Maintenance Procedures		66

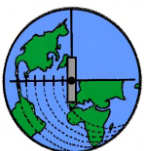
UNIVERSAL MOTION COMPONENTS

SPARE PARTS CATALOG

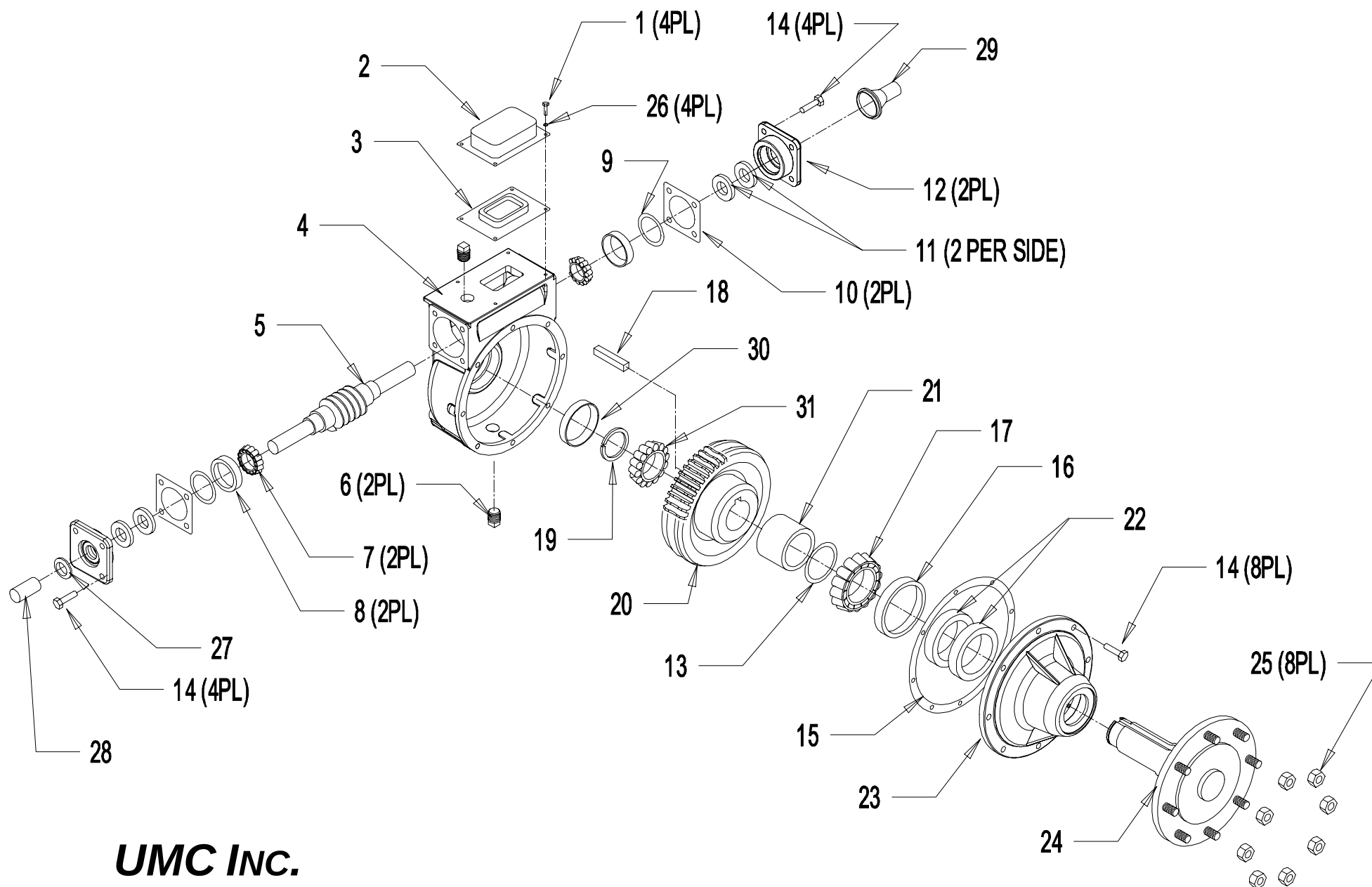
IRRIGATION - Wheel Gearboxes

MODEL	Description	P/N	PAGE
740-U	Final Drive Gearbox Universal	10141-105A	5
740-UV	Final Drive Gearbox 52:1 Ratio	10141-106A	5
745-U	Final Drive Gearbox 2 ½" Output	10141-145A	7
760-U	Heavy Duty Final Drive Gearbox	10160-101A	9
Moderate	Moderate Duty Final Drive Gearbox	10148-105A	11
725-U	Final Drive Gearbox Universal	06147-105A	13
725-UV	Final Drive Gearbox 52:1 Ratio	06147-106A	13
730-U	Final Drive Gearbox 2 ½" Output	06148-101A	13
720-U	Final Drive Gearbox 2" Output	06146-101A	15

UNIVERSAL MOTION COMPONENTS, Co. Inc.



2920 Airway Ave, Costa Mesa, Ca. 92626-6008
Phone: (714) 437-9600 Fax: (714) 437-9700
E-mail: sales@umcproducts.com Web: <http://www.umcproducts.com>



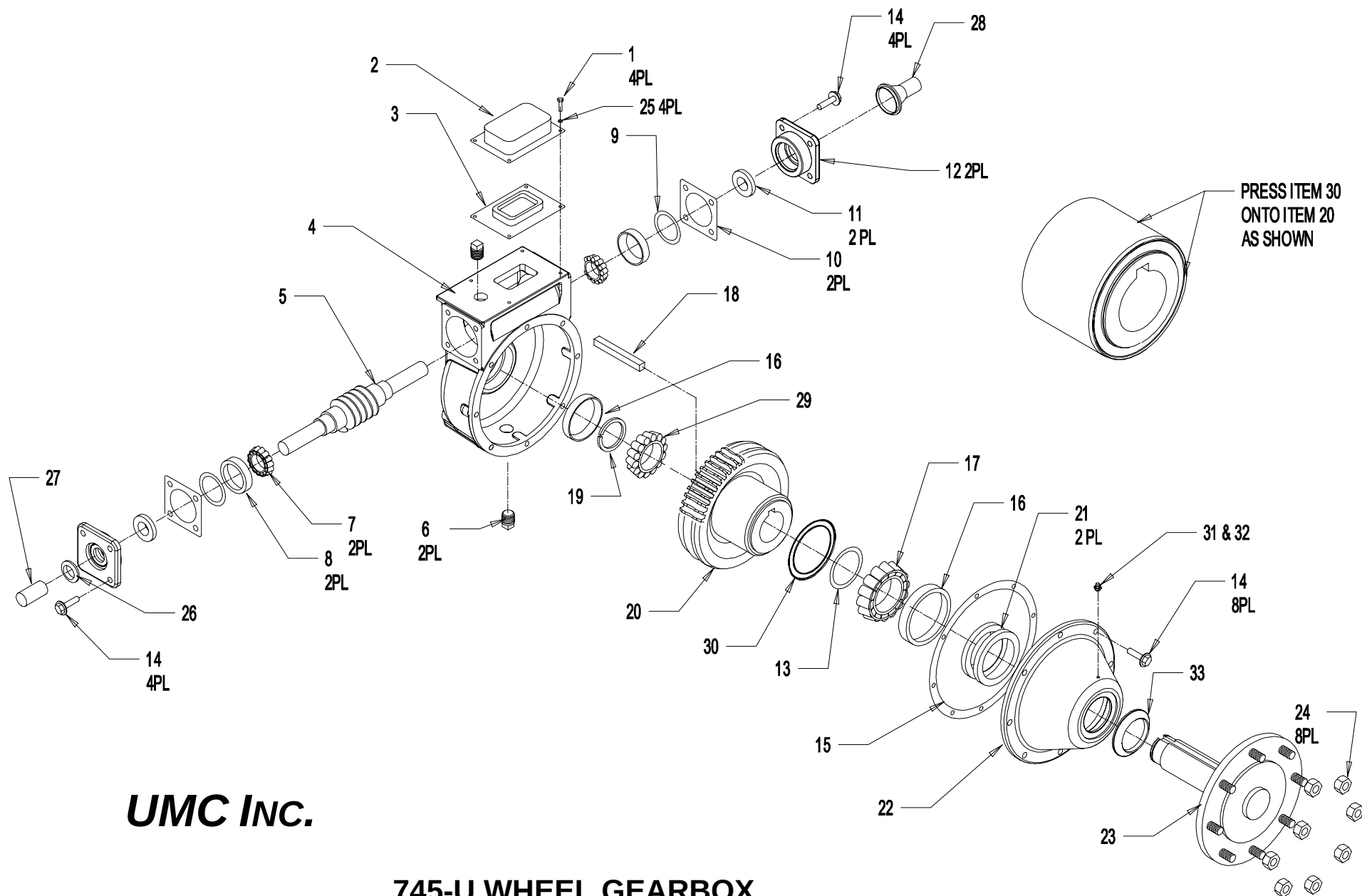
UMC Inc.

740-U / 740UV WHEEL GEARBOX

10141-105A, 10141-106A

	10141-105A 740-U 50:1	10141-106A 740-UV 52:1	WHEEL GEARBOX 740-U / 740-UV RETAIL PARTS / MATERIAL LIST	
ITEM	QTY	QTY	DESCRIPTION	PART #
1	4	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	1	COVER, EXPANSION CHAMBER (STAINLESS STEEL)	06143-205D
3	1	1	DIAPHRAGM, RUBBER (STEEL COVER)	06143-704A
4	1	-	HOUSING, DRIVE MIL.	10141-201A
4	-	1	HOUSING, DRIVE MIL.	10141-221A
5	1	-	WORM, UNIVERSAL 50:1	10141-202A
5	-	1	WORM, UNIVERSAL 52:1	10141-217A
6	2	2	PLUG, PIPE ½" NPT	06141-803A
7	2	2	BEARING, CONE 1.2500" ID	10141-803A
8	2	2	BEARING, CUP 3.0000" OD	10141-802A
9	A/R	A/R	SHIM, INPUT (VARIOUS SIZES)	10141-206*
10	2	2	GASKET, END CAP	10141-701A
11	4	4	SEAL, OIL 1.063 X 2.00 X .313 DBL LIP (INPUT)	06147-745G
11*	2	2	SEAL, OIL 1.063 X 2.00 X .615 CARTRIDGE	10141-715A
12	2	2	CAP, END	10141-208A
13	A/R	A/R	SHIM, O/P 2 ¼" ID (VARIOUS SIZES)	06145-203*
14	16	v	SCREW, HEX FLANGE HEAD CAP 3/8-16 x 1.0 LONG	10141-805A
15	1	1	GASKET, COVER (10.19)	10141-702A
16	1	1	BEARING, CUP 3.8125" OD	06145-801A
17	1	1	BEARING, CONE 2.250" ID	06145-802A
18	1	1	KEY, ½ SQ x 2.88 LONG	06141-809A
19	1	1	RING, SNAP 1.880" ID	06141-808A
20	1	-	GEAR, 2000 50:1 2 ¼" ID	10141-212A
20	-	1	GEAR, 2000 52:1 2 ¼" ID	10141-218A
21	1	1	SPACER, SHAFT 2 ¼ " ID X 1.90 LG MIL.	10141-204A
22	2	2	SEAL, OIL 2.250 X 3.250 X .380 DBL LIP 2 ¼" (OUTPUT)	06147-747G
22*	1	1	SEAL, OIL 2.250 X 3.250 X .689 CARTRIDGE	10141-710A
23	1	1	COVER, GEARBOX 2 ¼" OUTPUT SHAFT	10141-207A
24	1	-	SHAFT ASSY, OUTPUTP 2 ¼"	10141-102A
24	-	1	SHAFT ASSY, OUTPUT UXV 2 ¼"	10141-112A
25	8	8	NUT, LUG 9/16-18	06142-801A
26	4	4	WASHER, LOCK SPRING ¼"	06147-802A
27	1	1	SEAL, SHAFT FACE RUBBER 1"	06147-707A
28	1	1	COVER, PVC SHRINK	06147-903A
29	1	-	GUARD, SHAFT	06147-218A
29	-	1	GUARD, SHAFT UXV (HUB CAP)	06147-219A
30	1	1	BEARING, CUP 3.250" OD	06143-802A
31	1	1	BEARING, CONE 2.0000" OD	06141-806A

* Note: Alternate oil seal option



UMC Inc.

745-U WHEEL GEARBOX 10141-145A

WHEEL GEARBOX 745-U ** RETAIL PARTS / MATERIAL LIST

10141-145A

ITEM	QTY	DESCRIPTION	PART #
1	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	COVER, EXPANSION CHAMBER (STAINLESS STEEL)	06143-205D
3	1	DIAPHRAGM, RUBBER (STEEL COVER)	06143-704A
4	1	HOUSING, DRIVE MIL.	10141-270A
5	1	WORM, UNIVERSAL 50:1	10141-202A
6	2	PLUG, PIPE ½" NPT	06141-803A
7	2	BEARING, CONE 1.2500" ID	10141-803A
8	2	BEARING, CUP 3.0000" OD	10141-802A
9	A/R	SHIM, INPUT (VARIOUS SIZES)	10141-209*
10	2	GASKET, END CAP	10141-701A
11	2	SEAL, OIL 1.063 X 2.00 X .615 CARTRIDGE	10141-715A
12	2	CAP, END	10141-208A
13	A/R	SHIM, O/P 2 1/2" ID (VARIOUS SIZES)	06148-204*
14	16	SCREW, HEX HEAD FLG 3/8-16 x 1.0 LONG	10141-805A
15	1	GASKET, COVER (10.19)	10141-702A
16	2	BEARING, CUP 4.4375" OD	10141-808A
17	1	BEARING, CONE 2.500" ID	10141-809A
18	1	KEY, 5/8 SQ x 4.65 LONG	10141-812A
19	1	RING, SNAP 2.25 " SHAFT	10141-810A
20	1	GEAR, IRON 50:1 2 1/2" ID LG KEY	10141-275A
21	2	SEAL, OIL 2.50 X 3.50 X .375 (OUTPUT)	10143-711A
22	1	COVER, GEARBOX 2 1/2" OUTPUT SHAFT	10141-220A
23	1	SHAFT ASSY, OUTPUTP 2 1/2" LG KEY	10141-116A
24	8	NUT, LUG 9/16-18	06142-801A
25	4	WASHER, LOCK SPRING ¼"	06147-802A
26	1	SEAL, SHAFT FACE RUBBER 1"	06147-707A
27	1	COVER, PVC SHRINK	06147-903A
28	1	GUARD, SHAFT	06147-218A
29	1	BEARING, CONE 2.250" ID	10141-811A
30	1	CUP, GREASE RETAINER	10141-274A
31	1	FITTING, LUBE SAE TYPE HX HD M10	04301-803A
32	1	CAP, RED .207 – 1/4	04301-902A
33	1	SEAL SAVER 2.50 SHAFT	10143-707A



File: am2_grph_0205.doc

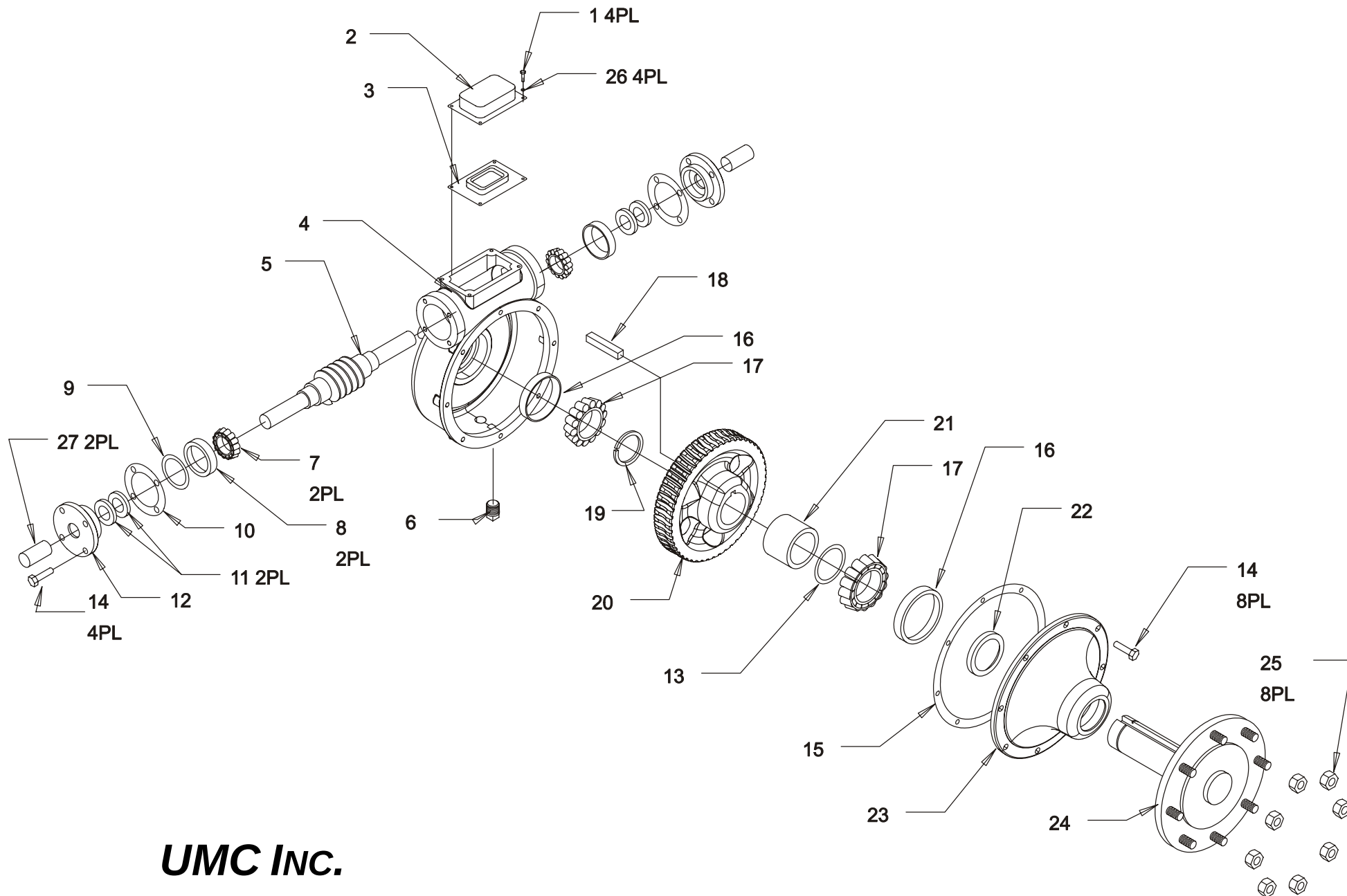
Copyright 08/2005

WHEEL GEARBOX 760-U ** RETAIL PARTS / MATERIAL LIST			
10160-101A 50:1 RATIO			
ITEM	QTY	DESCRIPTION	PART #
1	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	COVER, EXPANSION CHAMBER (760 SERIES)	10160-207A
3	1	DIAPHRAGM, RUBBER (760 SERIES)	10160-702A
4	1	HOUSING, DRIVE MIL.	10160-201A
5	1	WORM, 760 SERIES 50:1	10160-204A
6	2	PLUG, PIPE ½" NPT	06141-803A
7	2	BEARING, CONE 1.2500" ID	10141-803A
8	2	BEARING, CUP 3.0000" OD	10141-802A
9	A/R	SHIM, INPUT (VARIOUS SIZES)	10141-209*
10	2	GASKET, END CAP 760 SERIES	10160-701A
11	2	SEAL, OIL DOUBLE LIP (INPUT)	10160-705A
12	2	CAP, END 760 SERIES	10160-205A
13	A/R	SHIM, O/P 2 ½" ID (VARIOUS SIZES)	06148-204*
14	16	SCREW, HEX HEAD CAP 3/8-16 x 1.0 LONG	06141-802A
15	1	GASKET, COVER (760 SERIES)	10160-703A
16	1	BEARING, CUP 4.3307" OD	07710-801A
17	1	BEARING, CONE 2.500" ID	06148-801A
18	1	KEY, 5/8 SQ x 3.50" LONG	10160-801A
19	1	RING, SNAP 2.133" ID	10141-801A
20	1	GEAR, 50:1 2 ½" ID 760 SERIES	10160-206A
21	1	BEARING, CUP 3.8125" OD	06145-801A
22	1	BEARING, CONE 2.2500" ID	06145-802A
23	1	SEAL, OIL OUTPUT 2.5000"	10143-708A
24	1	COVER, GEARBOX 2 ½" OUTPUT SHAFT (760 SERIES)	10160-202A
25	1	SHAFT ASSY, OUTPUT 2 ½" (760 SERIES)	10160-102A
26	8	NUT, LUG 9/16-18	06142-801A
27	4	WASHER, LOCK SPRING ¼"	06147-802A
28	2	SEAL, SHAFT FACE RUBBER 1.125"	10160-706A
29	1	COVER, PVC SHRINK	06147-903A
30	1	GUARD, SHAFT (HUB CAP)	06147-218A
31	1	SEAL, OIL OUTPUT 2.5000"	10143-709A
32	1	SEAL SAVER, OUTPUT 2.5000"	10143-707A
33	2	SEAL, OIL INPUT 1.1250" (SINGLE LIP)	10160-704A
34	3	LUBE FITTING, SAE TYPE 10mm	04301-803A
35	3	FITTING CAP, RED	04301-902A

WHEEL GEARBOX 760-U ** RETAIL PARTS / MATERIAL LIST

10160-101AD 52:1 RATIO

ITEM	QTY	DESCRIPTION	PART #
1	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	COVER, EXPANSION CHAMBER (760 SERIES)	10160-207A
3	1	DIAPHRAGM, RUBBER (760 SERIES)	10160-702A
4	1	HOUSING, 52:1 760 SERIES	10160-201V
5	1	WORM, 760 SERIES 52:1	10160-212D
6	2	PLUG, PIPE ½" NPT	06141-803A
7	2	BEARING, CONE 1.2500" ID	10141-803A
8	2	BEARING, CUP 3.0000" OD	10141-802A
9	A/R	SHIM, INPUT (VARIOUS SIZES)	10141-206*
10	2	GASKET, END CAP 760 SERIES	10160-701B
11	2	SEAL, OIL DOUBLE LIP (INPUT)	10160-705A
12	2	CAP, END 760 SERIES	10160-205A
13	A/R	SHIM, O/P 2 ½" ID (VARIOUS SIZES)	06148-204*
14	16	SCREW, HEX HEAD CAP 3/8-16 x 1.0 LONG	06141-802A
15	1	GASKET, COVER (760 SERIES)	10160-703B
16	1	BEARING, CUP 4.3307" OD	07710-801A
17	1	BEARING, CONE 2.500" ID	06148-801A
18	1	KEY, 5/8 SQ x 3.50" LONG	10160-801A
19	1	RING, SNAP 2.133" ID	10141-801A
20	1	GEAR, 52:1 2 ½" ID 760 SERIES	10160-213D
21	1	BEARING, CUP 3.8125" OD	06145-801A
22	1	BEARING, CONE 2.2500" ID	06145-802A
23	1	SEAL, OIL OUTPUT 2.5000"	10143-708A
24	1	COVER, GEARBOX 2 ½" OUTPUT SHAFT (760 SERIES)	10160-202A
25	1	SHAFT ASSY, OUTPUT 2 ½" (760 SERIES)	10160-112A
26	8	NUT, LUG 9/16-18	06142-801A
27	4	WASHER, LOCK SPRING ¼"	06147-802A
28	2	SEAL, SHAFT FACE RUBBER 1.125"	06147-707A
29	1	GUARD SHAFT (HUB CAP) NO COO	06147-218A
30	1	GUARD, SHAFT (HUB CAP) "MIC"	06147-218C
31	1	SEAL, OIL OUTPUT 2.5000"	10143-709A
32	1	SEAL SAVER, OUTPUT 2.5000"	10143-707A
33	2	SEAL, OIL INPUT 1.1250" (SINGLE LIP)	10160-704A



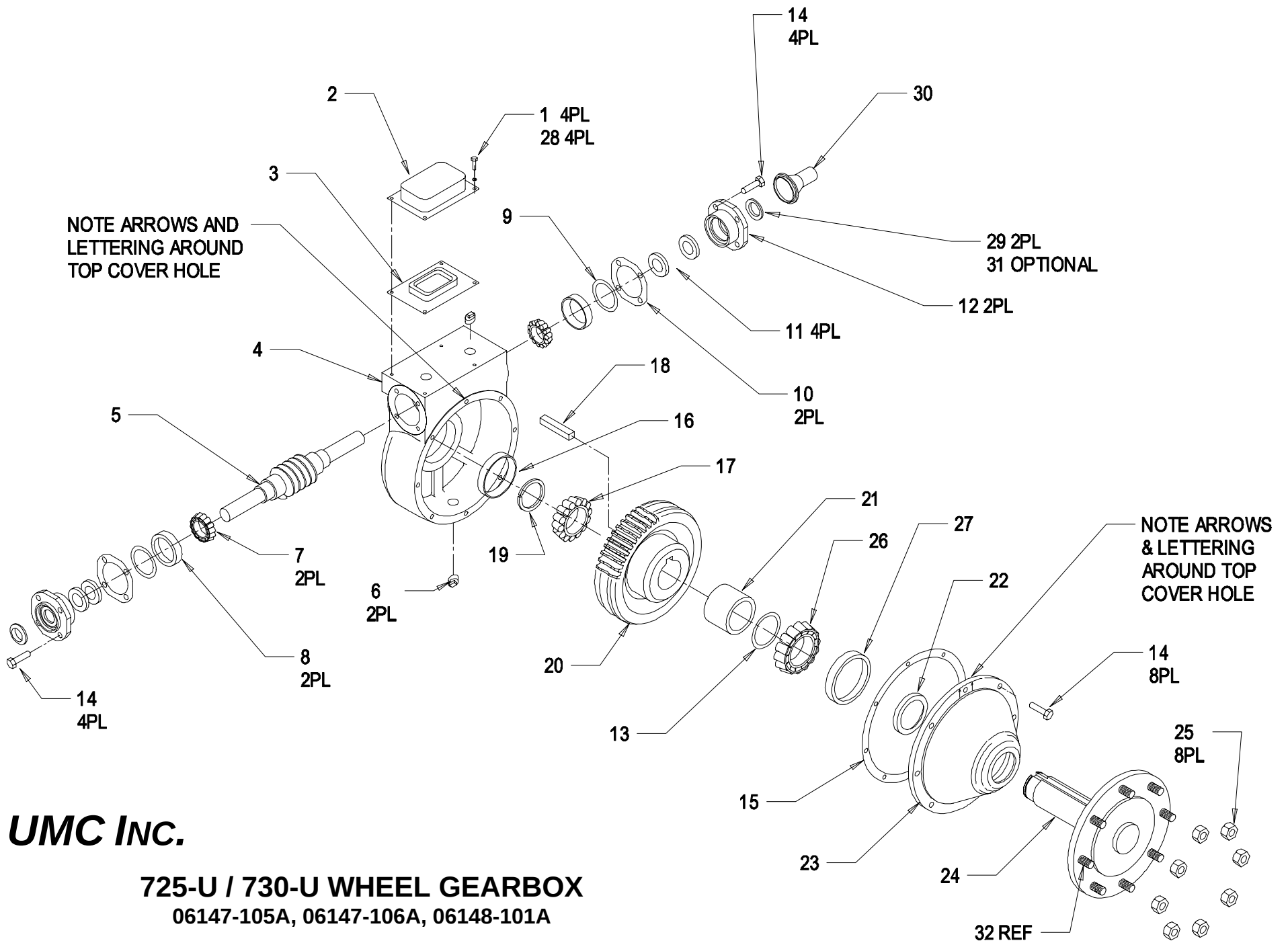
UMC Inc.

**MODERATE DUTY WHEEL GEARBOX
10148-105A**

WHEEL GEARBOX MODERATE DUTY ** RETAIL PARTS / MATERIAL LIST
10148-105A

ITEM	QTY	DESCRIPTION	PART #
1	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	COVER, EXPANSION CHAMBER (STEEL)	10148-204A
3	1	DIAPHRAGM, RUBBER (STEEL COVER)	10148-701A
4	1	HOUSING, DRIVE MODERATE DUTY	10148-208A
5	1	WORM, UNIVERSAL 50:1	06147-202A
6	2	PLUG, PIPE ½" NPT	06141-803A
7	2	BEARING, CONE 1.1875" ID	06141-804A
8	2	BEARING, CUP 2.5312" OD	06141-805A
9	A/R	SHIM, INPUT (VARIOUS SIZES)	06141-209*
10	2	GASKET, END CAP	10148-702A
11	4	SEAL, OIL 1.00 X 2.000 X .325 DBL LIP (INPUT)	06143-705A
12	2	CAP, END	10148-203A
13	A/R	SHIM, O/P 2 " ID (VARIOUS SIZES)	06141-209*
14	16	SCREW, HEX HEAD CAP 3/8-16 x 1.0 LONG	06141-802A
15	1	GASKET, COVER (9.75 BCD)	10148-703A
16	1	BEARING, CUP 3.250" OD	06143-802A
17	1	BEARING, CONE 2.000" ID	06141-806A
18	1	KEY, ½ SQ x 2.88 LONG	06141-809A
19	1	RING, SNAP 1.880" ID	06141-808A
20	1	GEAR, UNIVERSAL 50:1 2 " ID	10148-207A
21	1	SPACER, SHAFT 2 " ID	06143-203A
22	1	SEAL, OIL 2.000 X 2.750 X .50 OUTPUT	06141-704A
23	1	COVER, GEARBOX 2" MODERATE	10148-206A
24	1	SHAFT ASSY, O/P 2" (720)	06143-102A
25	8	NUT, LUG 9/16-18	06142-801A
26	4	WASHER, LOCK SPRING ¼"	06147-802A
27	2	COVER, PVC SH 50mm X 2.25 LG	06147-903A
28***	8	BOLT, RNCB 9/16-18 x 1 5/8 LG	06143-801A

*** ITEM 28 IS INCLUDED IN ITEM 24 OUTPUT SHAFT ASSEMBLY



UMC Inc.

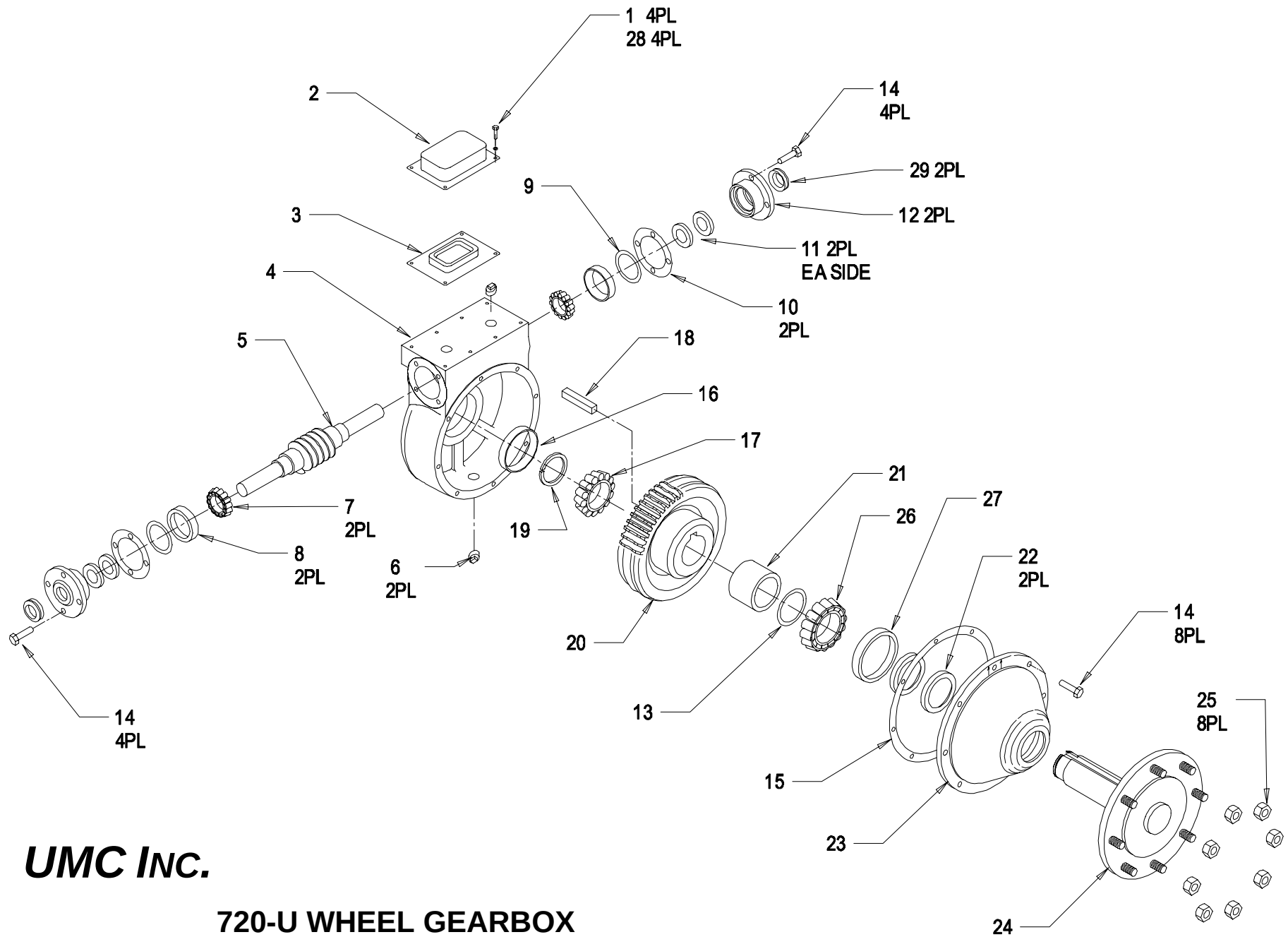
725-U / 730-U WHEEL GEARBOX
 06147-105A, 06147-106A, 06148-101A

	06147-105A 725-U 50:1	06147-106A 725-UV 52:1	06148-101A 730-U 50:1	WHEEL GEARBOX 725-U, 725-UV, 730-U RETAIL PARTS / MATERIAL LIST	
ITEM	QTY	QTY	QTY	DESCRIPTION	PART #
1	4	4	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	1	1	COVER, EXPANSION CHAMBER (STEEL)	06143-205D
3	1	1	1	DIAPHRAGM, RUBBER (STEEL COVER)	06143-704A
4	1	-	1	HOUSING, DRIVE UNIVERSAL	06146-201A
4	-	1	-	HOUSING, DRIVE VALLEY PATTERN	06147-201A
5	1	-	1	WORM, UNIVERSAL 50:1	06147-202A
5	-	1	-	WORM, MATCH 52:1	06147-203A
6	2	2	2	PLUG, PIPE ½" NPT	06141-803A
7	2	2	2	BEARING, CONE 1.1875" ID	06141-804A
8	2	2	2	BEARING, CUP 2.5312" OD	06141-805A
9	A/R	A/R	A/R	SHIM, INPUT (VARIOUS SIZES)	06141-209*
10	2	2	2	GASKET, END CAP	06147-704A
11	4	4	4	SEAL, OIL 1.00 X 2.000 X .325 DBL LIP (INPUT)	06143-705A
12	2	2	2	CAP, END	06147-204A
13	A/R	A/R	-	SHIM, O/P 2 ¼" ID (VARIOUS SIZES)	06145-203*
13	-	-	A/R	SHIM, O/P 2 ½" ID (VARIOUS SIZES)	06148-204*
14	16	16	16	SCREW, HEX HEAD CAP 3/8-16 x 1.0 LONG	06141-802A
15	1	1	1	GASKET, COVER (10.19)	06141-706A
16	1	1	1	BEARING, CUP 3.250" OD	06143-802A
17	1	1	1	BEARING, CONE 2.000" ID	06141-806A
18	1	1	1	KEY, ½ SQ x 2.88 LONG	06141-809A
19	1	1	1	RING, SNAP 1.880" ID	06141-808A
20	1	-	1	GEAR, UNIVERSAL 50:1 2 ¼" ID	06147-209A
20	-	1	-	GEAR, MATCH 52:1 2 ¼" ID	06147-206A
21	1	1	-	SPACER, SHAFT 2 ¼ " ID	06149-205A
21	-	-	1	SPACER, SHAFT 2 ½ " ID	06148-203A
22	1	1	-	SEAL, OIL 2.250 X 3.000 X .43 TRP LIP OP	06145-701E
22	-	-	1	SEAL, OIL 2.500 X 3.5000 X .59 TRP LIP OP	06148-705A
23	1	1	-	COVER, GEARBOX 2 ¼" INT RIB	06147-211A
23	-	-	1	COVER, GEARBOX 2 ½ " INT RIB	06148-201A
24	1	-	-	SHAFT ASSY, O/P 2 ¼" THRU GEAR	06147-104A
24	-	1	-	SHAFT ASSY, O/P 2 ¼" UV	06147-103A
24	-	-	1	SHAFT ASSY, O/P 2 ½ " (2 ¼ " THRU GEAR)	06148-102A
25	8	8	8	NUT, LUG 9/16-18	06142-801A
26	1	1	-	BEARING, CONE 2 ¼" ID	06145-802A
26	-	-	1	BEARING, CONE 2 ½" ID	06148-801A
27	1	1	-	BEARING, CUP 3 13/16" OD	06145-801A
27	-	-	1	BEARING, CUP 4.3307" OD	07710-801A
28	4	4	4	WASHER, LOCK SPRING ¼"	06147-802A
29	2	2	2	SEAL, SHAFT FACE RUBBER 1"	06147-707A
30	1	1	1	GUARD, SHAFT	06147-218A
31**	2	2	2	SEAL, SHAFT FACE METAL ENCLOSED 1"	06147-705A
32***	8	8	8	BOLT, RNCB 9/16-18 x 1 5/8 LG	06143-801A

NOTE: ITEMS MARKED: **

OPTIONAL SEAL TO BE ORDERED AND INSTALLED BY THE END USER.
THIS REPLACES ITEM 29 SEAL.

ITEM 32 IS INCLUDED IN ITEM 24 OUTPUT SHAFT ASSEMBLY



UMC Inc.

720-U WHEEL GEARBOX
06146-101A

WHEEL GEARBOX 720-U
RETAIL PARTS / MATERIAL LIST
06146-101A

ITEM	QTY	DESCRIPTION	PART #
1	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	COVER, EXPANSION CHAMBER (STEEL)	06143-205A
3	1	DIAPHRAGM, RUBBER (STEEL COVER)	06143-704A
4	1	HOUSING, DRIVE UNIVERSAL	06146-201A
5	1	WORM, UNIVERSAL 50:1	06147-202A
6	2	PLUG, PIPE ½" NPT	06141-803A
7	2	BEARING, CONE 1.1875" ID	06141-804A
8	2	BEARING, CUP 2.5312" OD	06141-805A
9	A/R	SHIM, BEARING (VARIOUS SIZES)	06141-209*
10	2	GASKET, END CAP	06147-704A
11	4	SEAL, OIL 2.00" OD	06143-707A
12	2	CAP, END	06147-204A
13	2	SEAL, LARGE V-GROOVE	06141-705A
14	16	SCREW, HEX HEAD CAP 3/8-16 x 1.0 LONG	06141-802A
15	1	GASKET, COVER (10.19)	06141-706A
16	2	BEARING, CUP 3.250" OD	06143-802A
17	2	BEARING, CONE 2.000" ID	06141-806A
18	1	KEY, ½ SQ x 2.88 LONG	06141-809A
19	1	RING, SNAP 1.880" ID	06141-808A
20	1	GEAR, UNIVERSAL 50:1	06147-205A
21	1	SPACER, SHAFT 2" ID	06141-201A
22	2	SEAL, OIL (OUTPUT)	06143-708A
23	1	COVER, HOUSING 2" DIA OP SHAFT	06146-202A
24	1	SHAFT ASSY, OUTPUT (720)	06143-102A
25	8	NUT, LUG 9/16-18	06142-801A
26	4	WASHER, LOCK SPRING ¼"	06147-802A
27	1	RING, BACKUP 50mm ID"	06147-801A

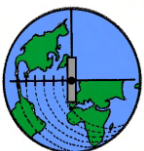
UNIVERSAL MOTION COMPONENTS

SPARE PARTS CATALOG

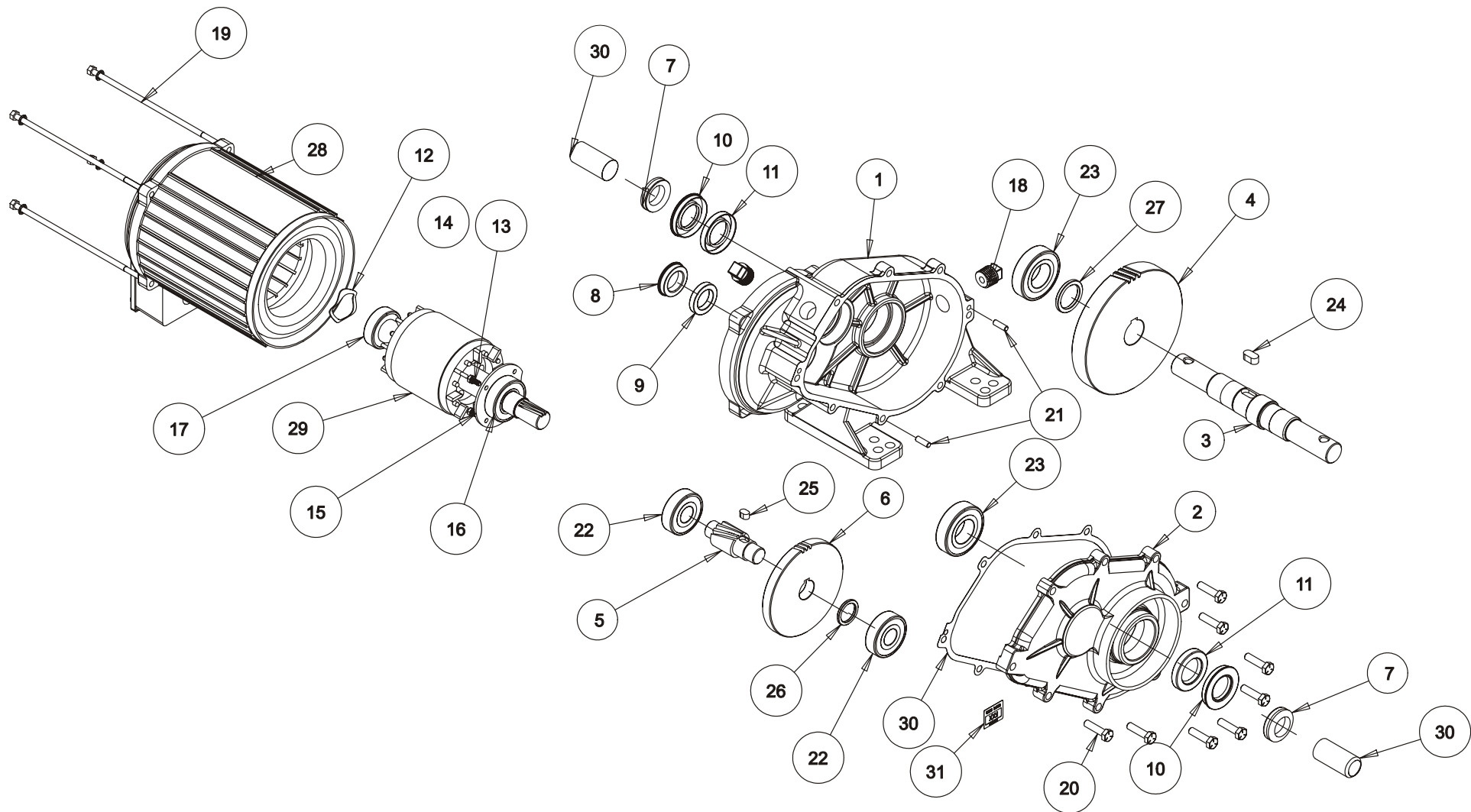
IRRIGATION - Center Drives

MODEL	Description	P/N	PAGE
PS 3.5	Powersaver 3.5 Gear Motor, Multi Ratio	06168-101*	19
PS III	Powersaver 3 Gear Motor, Multi Ratio	06165-101*	21
PS II	Powersaver 2 Gear Motor, Multi Ratio	06160-101*	23
CD-1U	Center Drive Gearbox, Multi Ratio	09333-15*A	25

UNIVERSAL MOTION COMPONENTS, Co. Inc.



2920 Airway Ave, Costa Mesa, Ca. 92626-6008
Phone: (714) 437-9600 Fax: (714) 437-9700
E-mail: sales@umcproducts.com Web: <http://www.umcproducts.com>

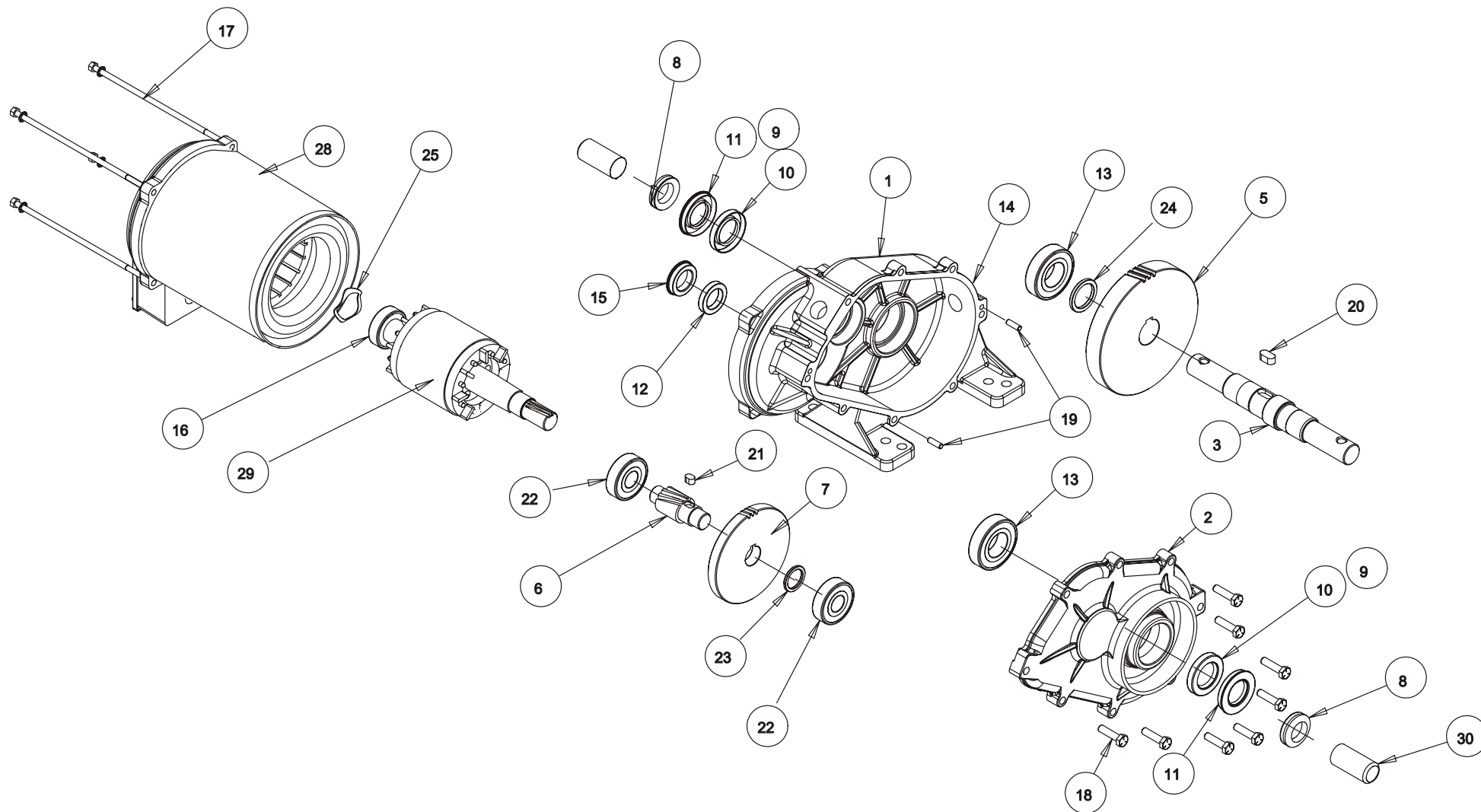


UMC Inc.

POWER SAVER 3.5 GEARMOTOR
06165-101A, -101B, -101D, -101G, -101H

101D 20:1	101F 25:1	101B 30:1	101A 101K 40:1	101H 50:1	101Q 101M 60:1	POWERSAVER 3.5 GEAR MOTOR Ratios: 60:1 50:1 40:1 30:1 25.5:1 20:1 06168-101Q, -101M, -101H, -101A, -101K, -101C, -101F, -101D		
QTY	QTY	QTY	QTY	QTY	QTY	DESCRIPTION	PART NO	ITEM
1	1	1	1	1	1	HOUSING, GEAR PS 3.5	06168-201A	1
1	1	1	1	1	1	COVER, HOUSING PS 3.5	06168-202A	2
1	1	1	1	1	1	SHAFT, OUTPUT PS 3.5	06168-203A	3
-	-	-	-	-	1	GEAR, SPIRAL (FINAL) 60:1, 74 TEETH	06168-213A	4
-	-	-	1	1	-	GEAR, SPIRAL (FINAL) 40-50:1, 74 TEETH	06168-204A	4
-	-	1	-	-	-	GEAR, SPIRAL (FINAL) 30:1, 71 TEETH	06168-205A	4
-	1	-	-	-	-	GEAR, SPIRAL (FINAL) 25.5:1, 68 TEETH	06168-215A	4
1	-	-	-	-	-	GEAR, SPIRAL (FINAL) 20:1, 65 TEETH	06168-206A	4
-	-	-	-	-	1	GEAR, SHAFT (PINION) 60:1, 11 TEETH	06168-214A	5
-	-	-	1	1	-	GEAR, SHAFT (PINION) 40-50:1, 12 TH	06168-207A	5
-	-	1	-	-	-	GEAR, SHAFT (PINION) 30:1, 15 TEETH	06168-208A	5
-	1	-	-	-	-	GEAR, SHAFT (PINION) 25.5:1, 21 TEETH	06168-216A	5
1	-	-	-	-	-	GEAR, SHAFT (PINION) 20:1, 21 TEETH	06168-209A	5
-	-	-	-	-	1	GEAR, SPIRAL(1 st RED) 60:1 74 TEETH	06168-211A	6
-	-	-	-	1	-	GEAR, SPIRAL(1 st RED) 50:1 73 TEETH	06168-212A	6
1	1	1	1	-	-	GEAR, SPIRAL(1 st RED) 20 THRU 40 71T	06168-210A	6
2	2	2	2	2	2	WIPER, SEAL V-GROOVE	06141-705A	7
1	1	1	1	1	1	SEAL, OIL FLANGED 25 X 38 X 8.5	06160-710D	8
1	1	1	1	1	1	SEAL, OIL GRND OD 25 X 38 X 7mm	06160-710E	9
2	2	2	2	2	2	SEAL, OIL FLANGED 30 X 50 X 8mm	06168-705B	10
2	2	2	2	2	2	SEAL, OIL GRND OD 30 X 50 X 8mm	06168-705D	11
1	1	1	1	1	1	WASHER, WAVE SPRING	06160-814A	12
4	4	4	4	4	4	SCREW, HX HD CAP M5 X 12 mm LG.	06168-820A	13
4	4	4	4	4	4	WASHER, LOCK HEL SPRING # 10 BK OX	06168-817A	14
1	1	1	1	1	1	RING, ALUM 45mm ID X 56mm OD X 3mm	06168-902A	15
1	1	1	1	1	1	BEARING, BALL 25 X 52 X 15mm (6205)	06150-808C	16
1	1	1	1	1	1	BEARING, BALL 20 X 47 X 14 mm (6204)	06150-809A	17
2	2	2	2	2	2	PLUG, PIPE ½ NPT	06141-803A	18
4	4	4	4	4	4	BOTL, HEX HEAD (PHIL) ¼-20 x 7.95 LG	06165-801A	19
8	8	8	8	8	8	BOLT, HEX HEAD CAP (5/16-18 x 1.25 LG)	06160-807A	20
2	2	2	2	2	2	PIN, STRAIGHT 6 X 19mm	06160-808A	21
2	2	2	2	2	2	BEARING, BALL 20 mm ID (6304 LLB)	06165-804A	22
2	2	2	2	2	2	BEARING, BALL 30mm ID (6206 LLB)	07530-801A	23
1	1	1	1	1	1	KEY, 10mm X 8mm x 20mm LG	06168-802A	24
1	1	1	1	1	1	KEY, 8mm X 7mm x 12mm LG	06168-803A	25
1	1	1	1	1	1	RING, SPACER SMALL	06168-805A	26
1	1	1	1	1	1	RING, SPACER LARGE	06168-806A	27
-	-	-	-	-	(1*)	STATOR ASSY, 3/4 HP 60:1 PS 3.5 (-101Q)	06168-601Q	28
-	-	-	-	-	(1*)	STATOR ASSY, 1.5 HP 60:1 PS 3.5 (-101M)	06168-601M	28
-	-	-	-	1	-	STATOR ASSY, ¾ HP 50:1 PS 3.5	06168-601H	28
-	-	-	(1*)	-	-	STATOR ASSY, ¾ HP 40:1 PS 3.5 (-101A)	06168-601A	28
-	-	-	(1*)	-	-	STATOR ASSY, 1.5 HP 40:1 PS 3.5 (-101K)	06168-601K	28
-	-	1	-	-	-	STATOR ASSY, 1 ½ HP 30:1 PS 3.5	06168-601B	28
-	1	-	-	-	-	STATOR ASSY, 1 ½ HP 25.5:1 PS 3.5	06168-601F	28
1	-	-	-	-	-	STATOR ASSY, 1 1/2 HP 20:1 PS 3.5	06168-601D	28
-	-	-	-	-	(1*)	ROTOR ASSY, 3/4 HP 60:1, 8 TH (-101Q)	06168-602Q	29
-	-	-	-	-	(1*)	ROTOR ASSY, 1.5 HP 60:1, 8 TH (-101M)	06168-602M	29
-	-	-	-	1	-	ROTOR ASSY, 3/4 HP 50:1, 9 TEETH	06168-602H	29
-	-	-	(1*)*	-	-	ROTOR ASSY, ¾ HP 40:1, 11 TH (-101A)	06168-602A	29
-	-	-	(1*)	-	-	ROTOR ASSY, 1.5 HP 40:1, 11 TH (-101K)	06165-602K	29
1	1	1	-	-	-	ROTOR ASSY 1 ½ HP 20,25.5, 30:1, 11 TH	06165-602B	29
2	2	2	2	2	2	COVER, OP SHAFT (PLASTIC)	06160-707A	30

(1*) For Items 27 & 28 common gear Ratios with ¾ or 1.5 HP

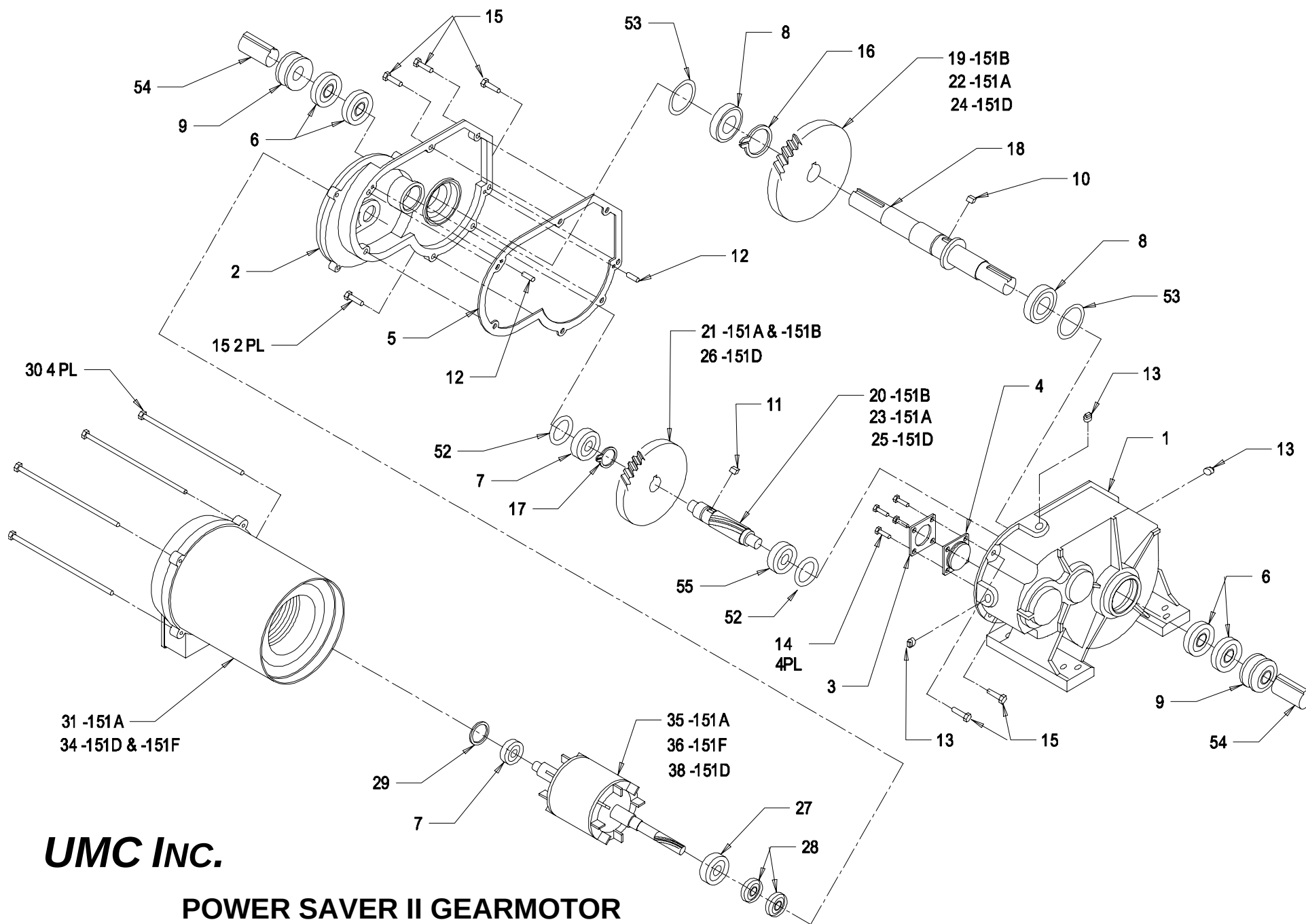


UMC Inc.

POWER SAVER III GEARMOTOR
06165-101A, -101B, -101D, -101G, -101H

101D 20:1	101F 25:1	101B 30:1	101A 40:1	101H 50:1	101G 60:1	POWERSAVER III GEAR MOTOR Ratios: 60:1 50:1 40:1 30:1 25.5:1 20:1 06165-101G, -101H, -101A, -101C, -101F, -101D		
QTY	QTY	QTY	QTY	QTY	QTY	DESCRIPTION	PART NO	ITEM
1	1	1	1	1	1	HOUSING, GEAR PS III	06165-201A	1
1	1	1	1	1	1	COVER, HOUSING PS III	06165-202A	2
1	1	1	1	1	1	SHAFT, OUTPUT PS III	06165-203A	3
-	-	-	-	-	1	GEAR, SPIRAL (FINAL) 60:1, 74 TEETH	06165-213A	5
-	-	-	1	1	-	GEAR, SPIRAL (FINAL) 40-50:1, 74 TEETH	06165-204A	5
-	-	1	-	-	-	GEAR, SPIRAL (FINAL) 30:1, 71 TEETH	06165-205A	5
-	1	-	-	-	-	GEAR, SPIRAL (FINAL) 25.5:1, 68 TEETH	06165-215A	5
1	-	-	-	-	-	GEAR, SPIRAL (FINAL) 20:1, 65 TEETH	06165-206A	5
-	-	-	-	-	1	GEAR, SHAFT (PINION) 60:1, 11 TEETH	06165-214A	6
-	-	-	1	1	-	GEAR, SHAFT (PINION) 40-50:1, 12 TH	06165-207A	6
-	-	1	-	-	-	GEAR, SHAFT (PINION) 30:1, 15 TEETH	06165-208A	6
-	1	-	-	-	-	GEAR, SHAFT (PINION) 25.5:1, 21 TEETH	06165-216A	6
1	-	-	-	-	-	GEAR, SHAFT (PINION) 20:1, 21 TEETH	06165-209A	6
-	-	-	-	-	1	GEAR, SPIRAL(1 st RED) 60:1 74 TEETH	06165-211A	7
-	-	-	-	1	-	GEAR, SPIRAL(1 st RED) 50:1 73 TEETH	06165-212A	7
1	1	1	1	-	-	GEAR, SPIRAL(1 st RED) 20 THRU 40 71T	06165-210A	7
2	2	2	2	2	2	WIPER, SEAL V-GROOVE	06141-705A	8
4	4	4	4	4	4	SEAL, OIL 30 X 45 X 8mm (AE-1679-AO)	06160-705A	9*
2	2	2	2	2	2	SEAL, OIL 30 X 45 X 8mm GRND OD	06160-705D	10*
2	2	2	2	2	2	SEAL, OIL 30 X 45 X 8mm FLANGED	06160-705B	11*
2	2	2	2	2	2	SEAL, OIL 25 X 38 X 8mm (AE-7869-EO)	06160-710A	12
2	2	2	2	2	2	BEARING, BALL 30mm ID (6206 LLB)	07530-801A	13
2	2	2	2	2	2	PLUG, PIPE ½ NPT	06141-803A	14
1	1	1	1	1	1	BEARING, BALL 25mm ID (6205 LLB)	06150-808C	15
1	1	1	1	1	1	BEARING, BALL 17mm ID (6203 LLU)	06160-803A	16
4	4	4	4	4	4	BOTL, HEX HEAD (PHIL) ¼-20 x 7.95 LG	06165-801A	17
8	8	8	8	8	8	BOLT, HEX HEAD CAP (5/16-18 x 1.25 LG)	06160-807A	18
2	2	2	2	2	2	PIN, STRAIGHT 6 X 19mm	06160-808A	19
1	1	1	1	1	1	KEY, 10mm SQ x 22mm LG	06165-802A	20
1	1	1	1	1	1	KEY, 8mm SQ x 12mm LG	06165-803A	21
2	2	2	2	2	2	BEARING, BALL 20mm ID (6304)	06165-804A	22
1	1	1	1	1	1	RING, SPACER SMALL	06165-805A	23
1	1	1	1	1	1	RING, SPACER LARGE	06165-806A	24
1	1	1	1	1	1	WASHER, WAVE SPRING	06160-814A	25
A/R	A/R	A/R	A/R	A/R	A/R	SHIM, SMALL	06160-818*	26
A/R	A/R	A/R	A/R	A/R	A/R	SHIM, LARGE	06160-819*	27
-	-	-	-	-	1	STATOR ASSY, 0.52 HP 60:1 PS III	06165-601G	28
-	-	-	-	1	-	STATOR ASSY, ¾ HP 50:1 PS III	06165-601H	28
-	-	-	1	-	-	STATOR ASSY, ¾ HP 40:1 PS III	06165-601A	28
-	-	1	-	-	-	STATOR ASSY, 1 ½ HP 30:1 PS III	06165-601B	28
-	1	-	-	-	-	STATOR ASSY, 1 ½ HP 25.5:1 PS III	06165-601F	28
1	-	-	-	-	-	STATOR ASSY, 1 1/2 HP 20:1 PS III	06165-601D	28
-	-	-	-	-	1	ROTOR ASSY, 0.52 HP 60:1, 9 TEETH	06165-602G	29
-	-	-	-	1	-	ROTOR ASSY, 3/4 HP 50:1, 8 TEETH	06165-602H	29
-	-	-	1	-	-	ROTOR ASSY, ¾ HP 40:1, 11 TEETH	06165-602A	29
1	1	1	-	-	-	ROTOR ASSY 1 ½ HP 20-30:1, 11 TEETH	06165-602B	29

* SEALS , ITEM 9 EARLY MODELS REPLACED BY ITEMS 10 & 11 IN LATER MODELS.



UMC Inc.

POWER SAVER II GEARMOTOR
06160-151A, -151B, -151D

151D 20:1	151F 30:1	151A 40:1	POWER SAVER II GEAR MOTOR Ratios: 40:1 / 30:1 / 20:1 06160-101A, -101B, -101D		
QTY	QTY	QTY	DESCRIPTION	PART NO	ITEM
1	1	1	HOUSING, GEAR	06160-202A	1*
1	1	1	BRACKET, MOTOR	06160-201A	2*
1	1	1	COVER, EXPANSION CHAMBER	06160-205A	3
1	1	1	DIAPHRAGM, POWER SAVER	06160-706A	4
1	1	1	GASKET, CASE PS	06160-703A	5*
4	4	4	SEAL, OIL 30 x 45 x 8mm (AE-1679-AO)	06160-705A	6
2	2	2	BEARING, BALL 17mm ID (6203 LLU)	06160-803A	7
2	2	2	BEARING, BALL 30mm ID (6206 LLB)	07530-801A	8
2	2	2	WIPER, SEAL V-GROOVE	06141-705A	9
1	1	1	KEY, .391" SQUARE X .969" LONG	06160-809A	10*
1	1	1	KEY, .273" SQUARE X .450" LONG	06160-810A	11*
2	2	2	PIN, ROLL 6 X 19mm	06160-808A	12*
3	3	3	PLUG, PIPE ½ NPT	06141-803A	13
2	2	2	SCREW, SLOTTED HEAD M-4	06160-804A	14
7	7	7	BOLT, HEX HEAD CAP (5/16-18 X 1.25 LG)	06160-807A	15
1	1	1	RING, SNAP LONG	06160-811A	16*
1	1	1	RING, SNAP SMALL	06160-812A	17*
1	1	-	SHAFT, OUTPUT	06160-204A	18*
-	1	-	GEAR, SPIRAL (FINAL) 30:1, 66 TEETH	06160-206A	19*
-	1	-	GEAR, SHAFT (PINION) 30:1, 16 TEETH	06160-207A	20*
-	1	1	GEAR, SPIRAL (1 ST RED) 30-40:1, 71 TTH	06160-208A	21*
-	-	1	GEAR, SPIRAL (FINAL) 40:1, 69 TEETH	06160-209A	22*
-	-	1	GEAR, SHAFT (PINION) 40:1, 12 TEETH	06160-210A	23*
1	-	-	GEAR, SPIRAL (FINAL) 20:1, 64 TEETH	06160-211A	24*
1	-	-	GEAR, SHAFT (PINION) 20:1, 18 TEETH	06160-212A	25*
1	-	-	GEAR, SPIRAL (1 ST RED) 20:1, 69 TEETH	06160-213A	26*
1	1	1	BEARING, BALL 25mm ID (6205 LLB)	06150-808C	27
2	2	2	SEAL, OIL 25 X 38 8mm (AE-7869-EO)	06160-710A	28
1	1	1	WASHER, WAVE SPRING	06160-814A	29
4	4	4	BOLT, HEX HEAD (PHIL) ¼-20 X .5 LG	06160-806A	30
-	-	1	STATOR/ENDBELL ASSY, ¾ HP 40:1	06160-604A	31
1	1	-	STATOR/ENDBELL ASSY, 1 ½ HP 20:1 30:1	06160-606B	34
-	-	1	ROTOR, MOTOR ¾ HP 40:1, 10 TEETH	06160-607A	35*
-	1	-	ROTOR, MOTOR 1 ½ HP 30:1, 10 TEETH	06160-608A	36*
1	-	-	ROTOR, MOTOR 1 ½ HP 20:1, 12 TEETH	06160-623A	38*
1	1	1	DECAL, CAUTION/WARNING (LARGE)	06160-711A	47
1	1	1	DECAL, WARNING (SMALL)	06160-712A	48
A/R	A/R	A/R	SHIM, SMALL	06160-818*	52
A/R	A/R	A/R	SHIM, LARGE	06160-819*	53
2	2	2	COVER, OP SHAFT (PLASTIC)	06160-707A	54*
1	1	1	BEARING, BALL (6204)	06150-809A	55

* Item Discontinued. Please call for availability

**CENTER DRIVE CD1-U 30:1 / 40:1 / 50:1 / 60:1
RETAIL PARTS/MATERIAL LIST
09333-152A, -153A, -151A, -154A**

ITEM	QTY	QTY	QTY	QTY	DESCRIPTION	PART #
1	1	1	1	1	HOUSING, CD1-U	06150-203A
2	1	1	1	1	BEARING, BALL 20mm (6204 OPEN)	06150-809A
3A	1	—	—	—	WORM SHAFT 30:1	06150-202A
3B	—	1	—	—	WORM SHAFT 40:1	09333-202A
3C	—	—	1	—	WORM SHAFT 50:1	06152-201A
3D	—	—	—	1	WORM SHAFT 60:1	09333-204A
4	1	1	1	1	BEARING, BALL 25mm (6305 LLU SEALED)	06150-808A
5	1	1	1	1	RING, RETAINING .984	06150-806A
6	1	1	1	1	SEAL, I/P .875 X 1.375 (AC1181-IO NOK)	06150-703A
7	1	1	1	1	GASKET, INPUT	06150-706A
8	1	1	1	1	FLANGE, TALL CD-1U	06150-204A
9	8	8	8	8	SCREW, HEX HEAD CAP 5/16-18 X .88	06150-802A
10	1	1	1	1	KEY, .187 X .488	06150-804A
11	2	2	2	2	COUPLER, DRIVE HALF	06150-205A
12	2	2	2	2	SCREW, SET ¼-20 X .25	06150-807A
13	1	1	1	1	PUCK, SPIDER	06150-701A
14	1	1	1	1	SHIELD	06150-702A
15	2	2	2	2	SEAL, O/P 1.125 X 1.625 (AB1598-EO NOK)	06150-704A
16	2	2	2	2	BEARING, CUP 1.98 OD (L45410)	06150-810A
17	2	2	2	2	BEARING, C ONE 1.1417 ID (L45449)	06150-811A
18	1	1	1	1	SPACER, LONG	06150-210A
19	AR	AR	AR	AR	SHIM, BEARING	06150-209*
20	1	1	1	1	SHAFT, OUTPUT CD-1U	06150-201A
21	1	1	1	1	KEY, ¼ X 1.00	06150-805A
22A	1	—	—	—	GEAR, WORM BRONZE 30:1	06150-206A
22B	—	1	—	—	GEAR, WORM BRONZE 40:1	09333-201A
22C	—	—	1	—	GEAR, WORM BRONZE 50:1	06152-202A
22D	—	—	—	1	GEAR, WORM BRONZE 60:1	09333-203A
23	1	1	1	1	SPACER, SHORT	06150-210B
24	2	2	2	2	SEAL, LARGE V-GROOVE	06141-705A
25	1	1	1	1	COVER, OUTPUT CD-1	06150-207A
26	4	4	4	4	PLUG, PIPE 3/8 NPT	06150-803A
27	2	2	2	2	WIPER, SEAL V-GROOVE	06141-705A
	152A 30:1	153A 40:1	151A 50:1	154A 60:1		

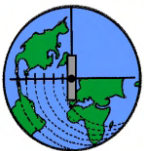
UNIVERSAL MOTION COMPONENTS

SPARE PARTS CATALOG

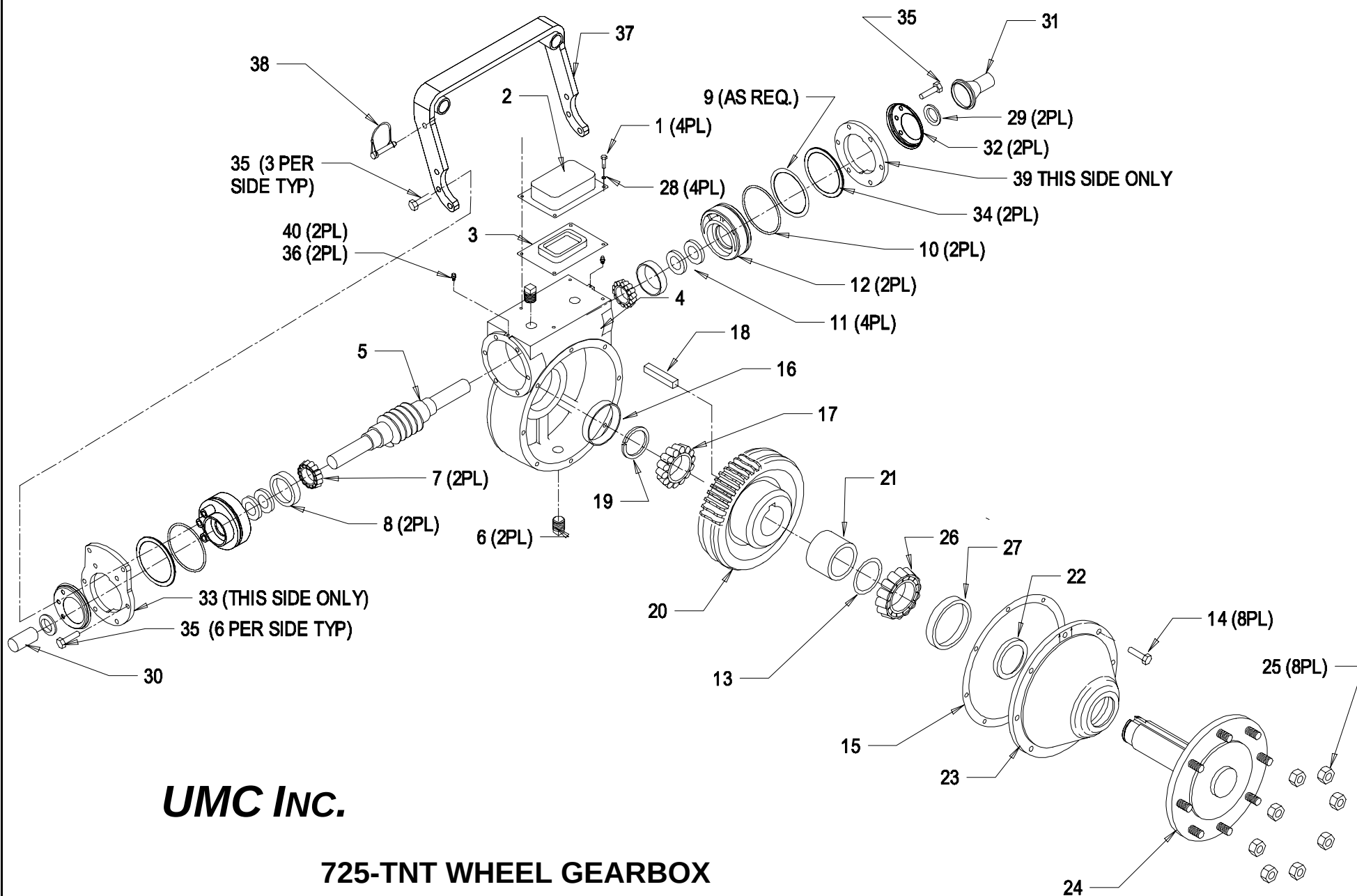
IRRIGATION - Towable

MODEL	Description	P/N	PAGE
725-TNT	Tow, Non-Tow Wheel Gearbox Universal	10140-101A	29
740-TNT	Tow, Non-Tow Wheel Gearbox Universal	10144-101A	31
740-TNT-UV	Tow, Non-Tow Wheel Gearbox 52:1 Ratio	10144-106A	31
725-UT	Towable Wheel Gearbox	06147-105D	33
OP 725_UT	Towable Output Assembly	06147-122A	35
BT-4B	Bolt on Towbale Hub 4B	04301-114A	37
BT-4	Bolt on Towbale Hub 4	04301-104A	39
BT-3	Bolt on Towbale Hub 3	04300-104A	41
Pin Bracket	Pin and Bracket Assembly	04041-10*A	43

UNIVERSAL MOTION COMPONENTS, Co. Inc.



2920 Airway Ave, Costa Mesa, Ca. 92626-6008
Phone: (714) 437-9600 Fax: (714) 437-9700
E-mail: sales@umcproducts.com Web: <http://www.umcproducts.com>



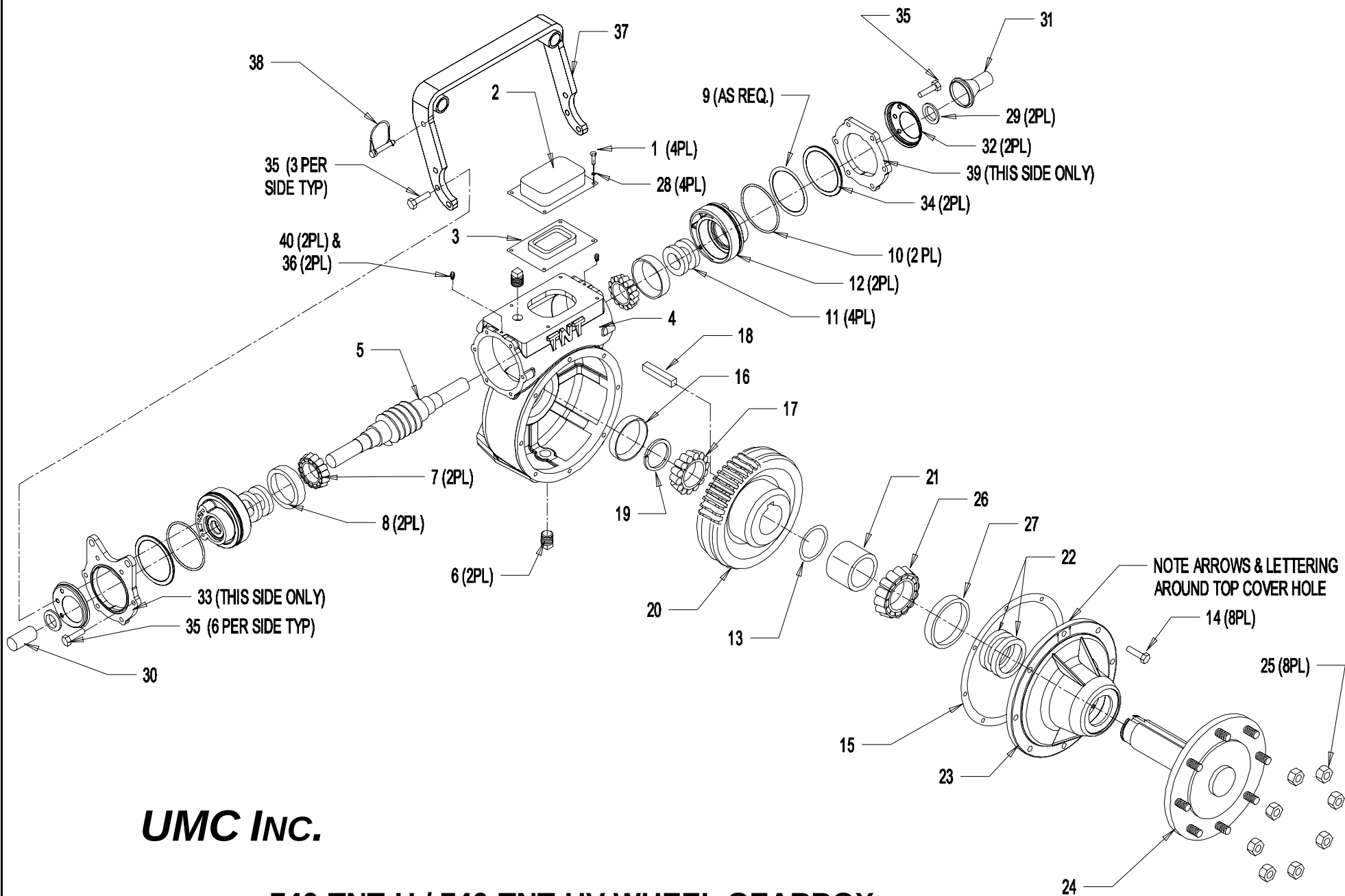
UMC Inc.

**725-TNT WHEEL GEARBOX
10140-101A**

WHEEL GEARBOX 725-TNT ** RETAIL PARTS / MATERIAL LIST

10140-101A

ITEM	QTY	DESCRIPTION	PART #
1	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	COVER, EXPANSION CHAMBER (TNT SERIES)	10140-218A
3	1	DIAPHRAGM, RUBBER	06143-704A
4	1	HOUSING, DRIVE TNT UNIVERSAL	10140-202A
5	1	WORM, TNT SERIES 50:1	10140-201A
6	2	PLUG, PIPE ½" NPT	06141-803A
7	2	BEARING, CONE 1.1875" ID	06141-804A
8	2	BEARING, CUP 2.5312" OD	06141-805A
9	A/R	SHIM, INPUT (VARIOUS SIZES)	10141-209*
10	2	O-RING 4mm x 86 mm ID	10140-702A
11	4	SEAL, OIL 1.000 X 1.750 X .25 (INPUT)	06141-703A
12	2	CAP, END TNT SERIES	10140-207A
13	A/R	SHIM, O/P 2 ¼" ID (VARIOUS SIZES)	06145-203*
14	8	SCREW, HEX HEAD CAP 3/8-16 x 1.0 LONG	06141-802A
15	1	GASKET, COVER (10.19)	06141-706A
16	1	BEARING, CUP 3.250" OD	06143-802A
17	1	BEARING, CONE 2.000" ID	06141-806A
18	1	KEY, ½" SQ x 2.88" LONG	06141-809A
19	1	RING, SNAP 1.880" ID	06141-808A
20	1	GEAR, 50:1 2 ¼" ID UNIVERSAL	06147-209A
21	1	SPACER, TNT SHAFT	10140-206A
22	1	SEAL, OIL 2.250 X 3.000 X .43 OUTPUT (TRIPLE LIP)	06145-701E
23	1	COVER, GEARBOX 2 ¼" TNT	06147-211E
24	1	SHAFT ASSY, OUTPUT 2 ¼" TNT	10140-220A
25	8	NUT, LUG 9/16-18	06142-801A
26	1	BEARING, CONE 2 ¼" ID	06145-802A
27	1	BEARING, CONE 3 13/16" OD	06145-801A
28	8	WASHER, LOCK SPRING ¼"	06147-802A
29	2	SEAL, SHAFT FACE RUBBER 1.0000"	06147-707A
30	1	SHAFT PROTECTOR CAP – RED	06147-903A
31	1	GUARD, SHAFT (HUB CAP)	06147-218A
32	2	DUST CAP, TNT	10140-205A
33	1	END PLATE, STANDARD TNT	10140-203A
34	2	BEARING, WASHER TNT	10140-208A
35	18	SCREW, HX HD CAP 5/16 – 18 X 1	10140-801A
36	2	LUBE FITTING, DRIVE TYPE 3/16" DRILL	08790-803A
37	1	HANDLE, TNT	10140-204A
38	1	LOCK PIN, 3/8"	10140-217A
39	1	END PLATE, COMMON TNT	10140-223A
40	2	FITTING CAP, RED	04301-902A



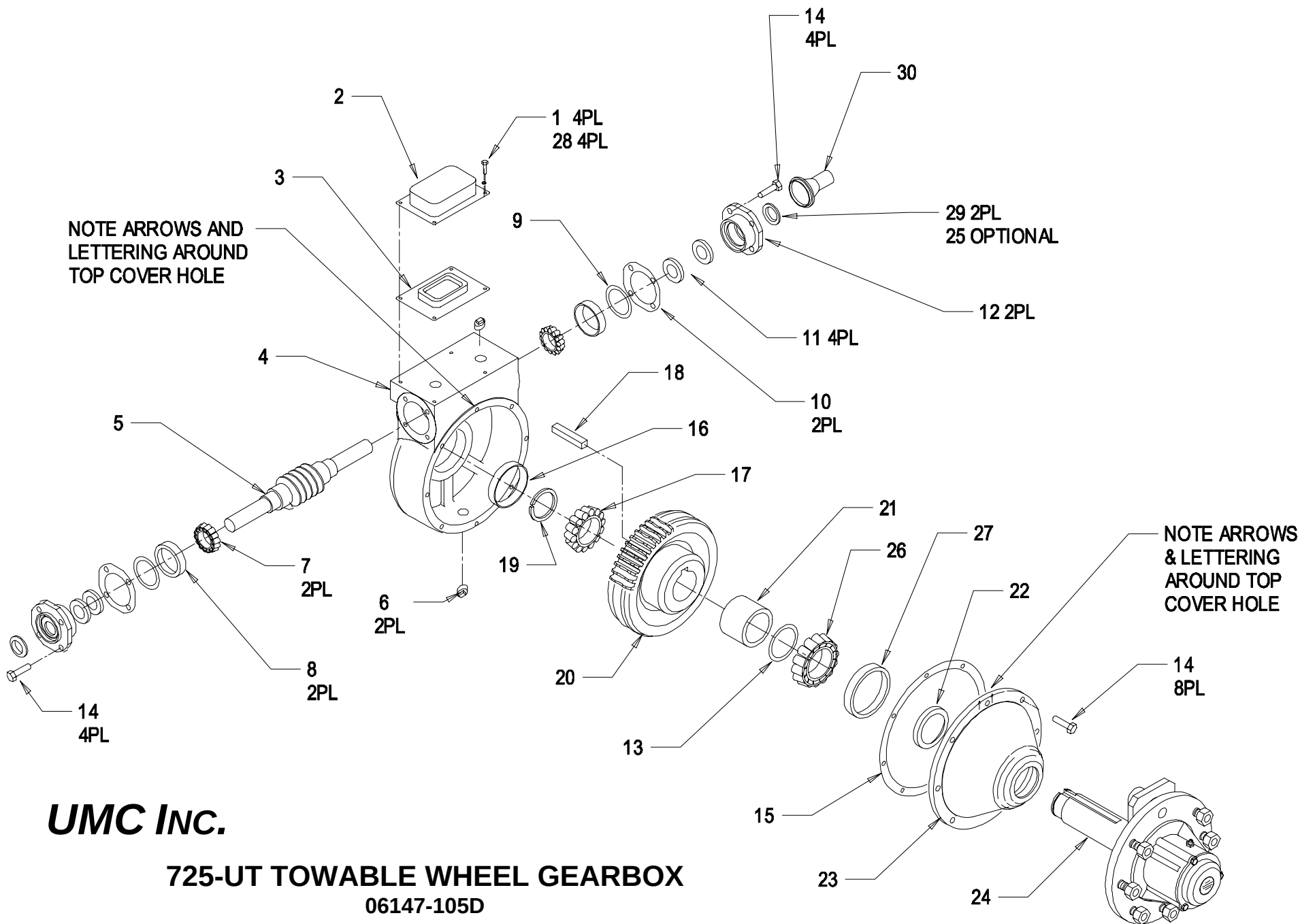
UMC Inc.

**740-TNT-U / 740-TNT-UV WHEEL GEARBOX
10144-101A / 10144-106A**

WHEEL GEARBOX 740-TNT-U / 740-TNT-UV ** RETAIL PARTS / MATERIAL LIST

10144-101A / 10144-106A

ITEM	QTY	QTY	DESCRIPTION	PART #
1	4	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	1	COVER, EXPANSION CHAMBER (TNT SERIES)	10140-218A
3	1	1	DIAPHRAGM, RUBBER	06143-704A
4	1	—	HOUSING, DRIVE TNT UNIVERSAL	10144-201A
4	—	1	HOUSING, DRIVE TNT-UV	10144-215A
5	1	—	WORM, TNT SERIES 50:1	10144-203A
5	—	1	WORM, TNT-UV 52:1	10144-217A
6	2	2	PLUG, PIPE ½" NPT	06141-803A
7	2	2	BEARING, CONE 1.250" ID	10141-803A
8	2	2	BEARING, CUP 3.0000" OD	10141-802A
9	A/R	A/R	SHIM, INPUT (VARIOUS SIZES)	10144-209*
10	2	2	O-RING #241	10144-701A
11	4	4	SEAL, OIL 1.063 X 2.00 X.313 DOUBLE LIP (INPUT)	06147-745G
12	2	2	CAP, END TNT SERIES	10144-202A
13	A/R	A/R	SHIM, O/P 2 ¼" ID (VARIOUS SIZES)	06145-203*
14	8	8	SCREW, HEX HEAD CAP 3/8-16 x 1.0 LONG	06141-802A
15	1	1	GASKET, COVER	10141-702A
16	1	1	BEARING, CUP 3.250" OD	06143-802A
17	1	1	BEARING, CONE 2.000" ID	06141-806A
18	1	1	KEY, ½" SQ x 2.88" LONG	06141-809A
19	1	1	RING, SNAP 1.880" ID	06141-808A
20	1	—	GEAR, 50:1 2 ¼" ID UNIVERSAL	10141-212A
20	—	1	GEAR, 52:1 2 ¼" ID TNT-UV	06147-206A
21	1	1	SPACER, TNT SHAFT INPUT	10144-210A
22	2	2	SEAL, OIL 2.250 X 3.251 X .38 OUTPUT (DBL LIP)	06147-747G
23	1	—	COVER, GEARBOX 2 ¼" TNT	10141-207A
24	1	—	SHAFT ASSY, OUTPUT 2 ¼" TNT	10144-104A
24	—	1	SHAFT ASSY, OUTPUT 2 ¼" TNT-UV	06147-103A
25	8	8	NUT, LUG 9/16-18	06142-801A
26	1	1	BEARING, CONE 2 ¼" ID	06145-802A
27	1	1	BEARING, CONE 3 13/16" OD	06145-801A
28	8	8	WASHER, LOCK SPRING ¼"	06147-802A
29	2	2	SEAL, SHAFT FACE RUBBER 1.0000"	06147-707A
30	1	1	SHAFT PROTECTOR CAP – RED	06147-903A
31	1	1	GUARD, SHAFT (HUB CAP)	06147-218A
32	2	2	DUST CAP, TNT 3" INPUT BEARING	10144-207A
33	1	1	END PLATE, TNT 3" INPUT BEARING	10144-205A
34	2	2	BEARING, WASHER TNT	10144-208A
35	18	18	SCREW, HX HD CAP 5/16 – 18 X 1	10140-801A
36	2	2	LUBE FITTING, DRIVE TYPE 3/16" DRILL	08790-803A
37	1	1	HANDLE, TNT	10144-206A
38	1	1	LOCK PIN, 3/8"	10140-217A
39	1	1	END PLATE, COMMON TNT	10144-204A
40	2	2	FITTING CAP, RED	04301-902A
	TNT-U 10144-101A	TNT-UV 10144-106A		



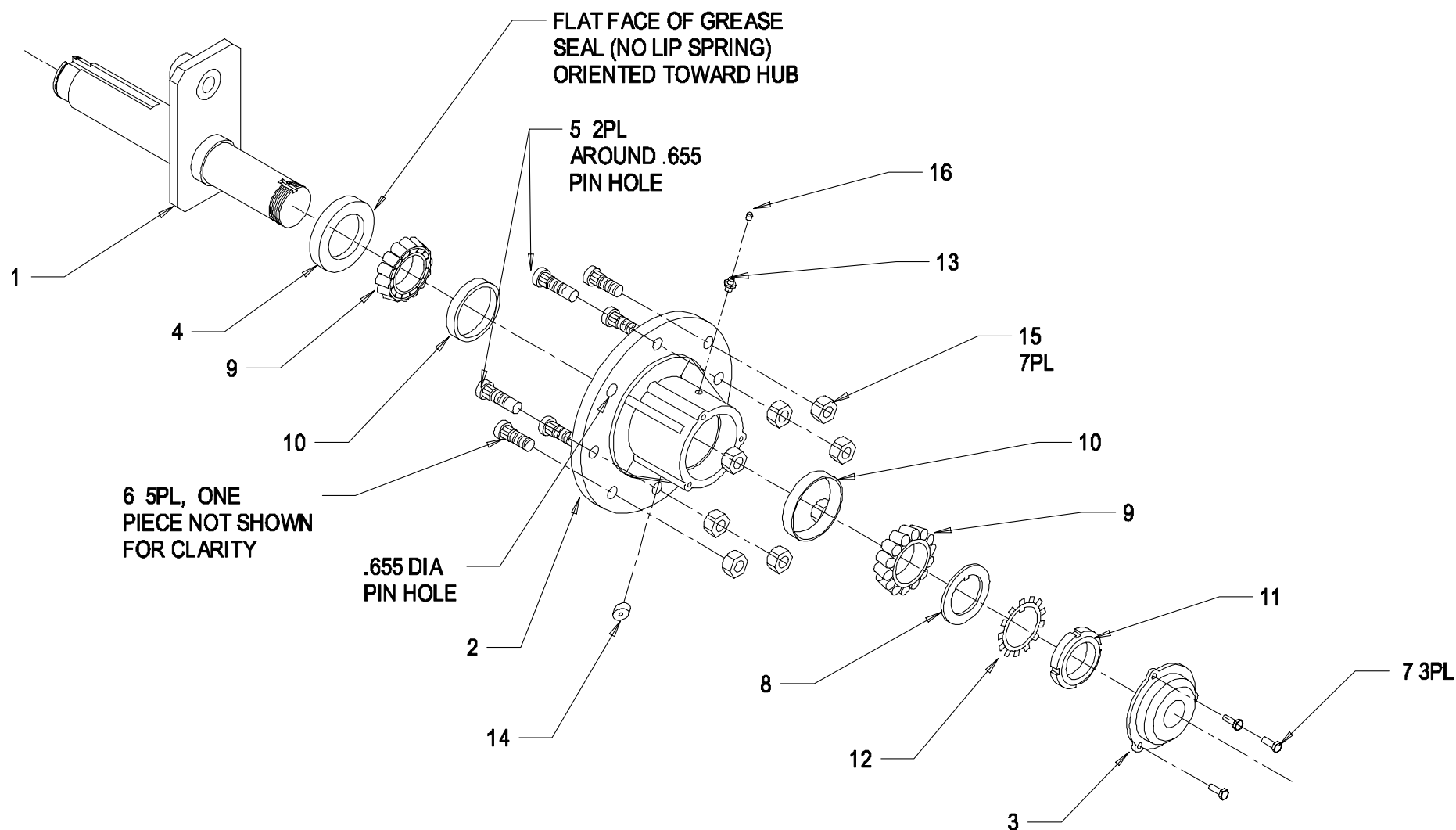
UMC Inc.

725-UT TOWABLE WHEEL GEARBOX

06147-105D

WHEEL GEARBOX 725-UT ** RETAIL PARTS / MATERIAL LIST 06147-105D			
ITEM	QTY	DESCRIPTION	PART #
1	4	SCREW, HEX HEAD CAP ¼-20 x .75	06141-801A
2	1	COVER, EXPANSION CHAMBER (STEEL)	06143-205A
3	1	DIAPHRAGM, RUBBER (STEEL COVER)	06143-704A
4	1	HOUSING, DRIVE UNIVERSAL	06146-201A
5	1	WORM, UNIVERSAL 50:1	06147-202A
6	2	PLUG, PIPE ½" NPT	06141-803A
7	2	BEARING, CONE 1.1875" ID	06141-804A
8	2	BEARING, CUP 2.5312" OD	06141-805A
9	A/R	SHIM, INPUT (VARIOUS SIZES)	06141-209*
10	2	GASKET, END CAP	06147-704A
11	4	SEAL, OIL 1.000 x 2.000 x .25 DBL LIP (INPUT)	06143-707A
12	2	CAP, END	06147-204A
13	A/R	SHIM, O/P 2 ¼" ID (VARIOUS SIZES)	06145-203*
14	16	SCREW, HEX HEAD CAP 3/8-16 x 1.0 LONG	06141-802A
15	1	GASKET, COVER (10.19)	06141-706A
16	1	BEARING, CUP 3.250" OD	06143-802A
17	1	BEARING, CONE 2.000" ID	06141-806A
18	1	KEY, ½ SQ x 2.88 LONG	06141-809A
19	1	RING, SNAP 1.880" ID	06141-808A
20	1	GEAR, UNIVERSAL 50:1 2 ¼" ID	06147-209A
21	1	SPACER, SHAFT 2 ¼ " ID	06149-205A
22	2	SEAL, OIL 2.250 X 3.000 X .43 TRP LIP OUTPUT	06145-701E
23	1	COVER, GEARBOX 2 ¼" INT RIB	06147-211A
24	1	OUTPUT ASSY, TOW 5/8" PIN	06147-122A
25**	2	SEAL, SHAFT FACE METAL ENCLOSED 1"	06147-705A
26	1	BEARING, CONE 2 ¼" ID	06145-802A
27	1	BEARING, CUP 3 13/16" OD	06145-801A
28	4	WASHER, LOCK SPRING ¼"	06147-802A
29	2	SEAL, SHAFT FACE RUBBER 1"	06147-707A
30	1	GUARD, SHAFT	06147-218A

NOTE: ITEMS MARKED: ** OPTIONAL SEAL TO BE ORDERED AND INSTALLED BY THE END USER.
THIS REPLACES ITEM 29 SEAL.
*** ITEM 32 IS INCLUDED IN ITEM 24 OUTPUT SHAFT ASSEMBLY.



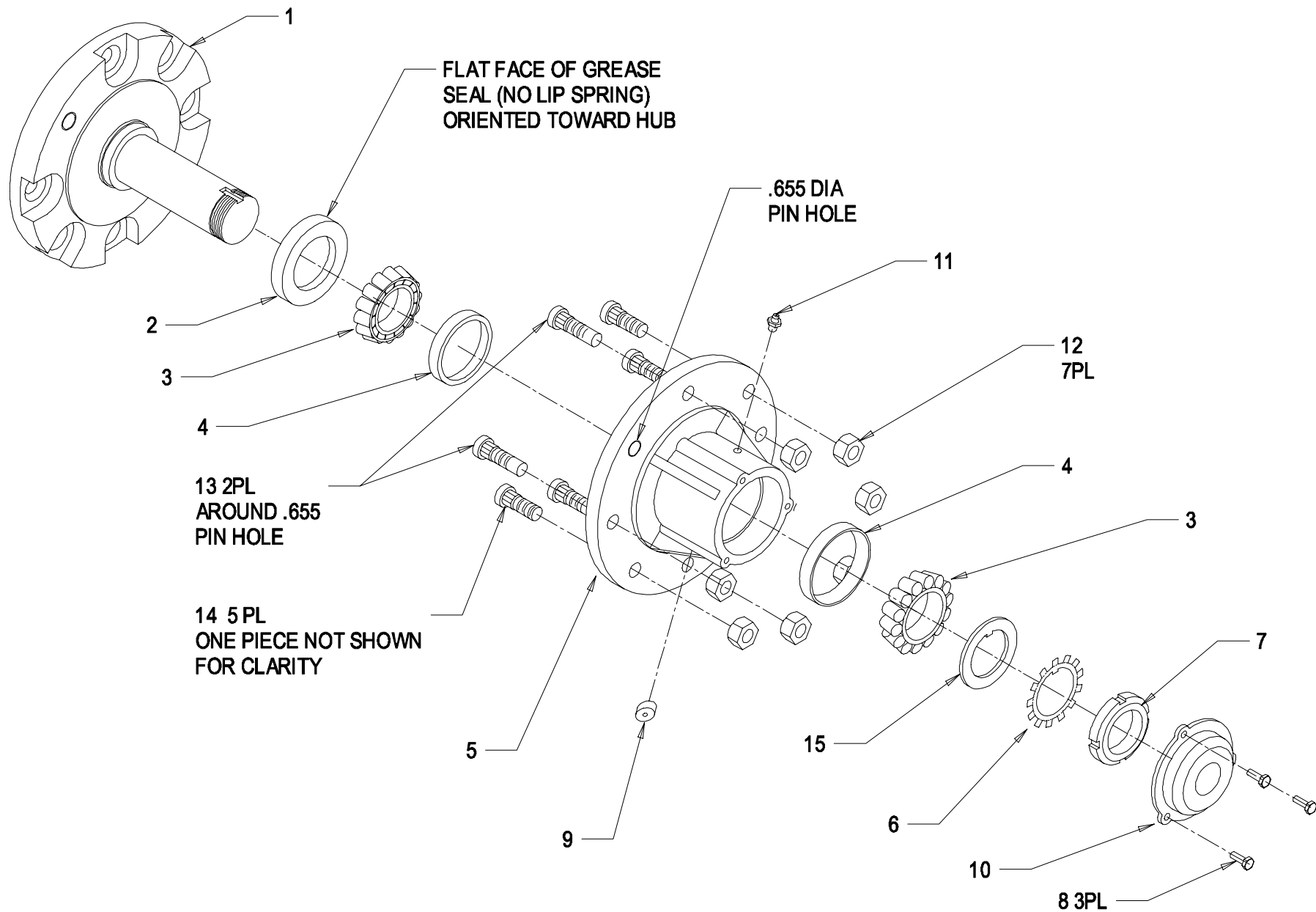
UMC Inc.

**OP-725-UT OUTPUT ASSY
06147-122A**

OUTPUT ASSY, 725-UT ** RETAIL PARTS / MATERIAL LIST 06147-122A			
ITEM	QTY	DESCRIPTION	PART #
1*	1	SHAFT, SINGLE PIN UT-TYPE 5/8 PIN	06147-405A
2*	1	HUB, SINGLE PIN UT-TYPE 5/8 PIN, 7 BOLT	04301-212C
3	1	CAP, BOLT ON HUB	04301-203A
4	1	SEAL, GREASE 2.25 X 3.371 X .375	06147-713A
5	2	BOLT, RNCB 9/16-18 X 1 7/8 LG	04300-802A
6	5	BOLT, RNCB 9/16-18 X 1 5/8 LG	06143-801A
7	3	BOLT, HX HD 1/4-20 X 1/2 LG ZINC PLATED	04301-806A
8	1	WASHER, TUNGED 50mm X 4mm THICK	04301-807B
9	2	BEARING, CONE 2.000 ID	06141-806A
10	2	BEARING, CUP 3.2500 OD	06143-802A
11	1	NUT, LOCK M50 X 1.5	04301-801A
12	1	WASHER, LOCK TAB M50 X 2mm THICK	04301-802B
13	1	FITTING, LUBE (SAE TYPE) M10	04301-803A
14	1	FITTING, RELIEF 1-5 PSIG	06140-702A
15	7	NUT, LUG 9/16-18	06142-801A
16	1	CAP, RED 0.207-1/4" (715-1R)	04301-902A

Note – Item 4 part number on early units was 06147-712A Oil Seal (NOK AD3135-EO)
Part # 06147-713A Grease Seal was implemented in February 1999.
Replace an Oil Seal with an Oil Seal and likewise for the Grease Seal.
SEE MAINTENANCE MANUAL FOR PROPER SEAL INSTALLATION.

* Discontinued Item. Please call for availability.



UMC Inc.

BT-4B BOLT ON TOWABLE HUB
04301-114A

BOLT-ON TOWABLE BT-4B
RETAIL PARTS/MATERIAL LIST

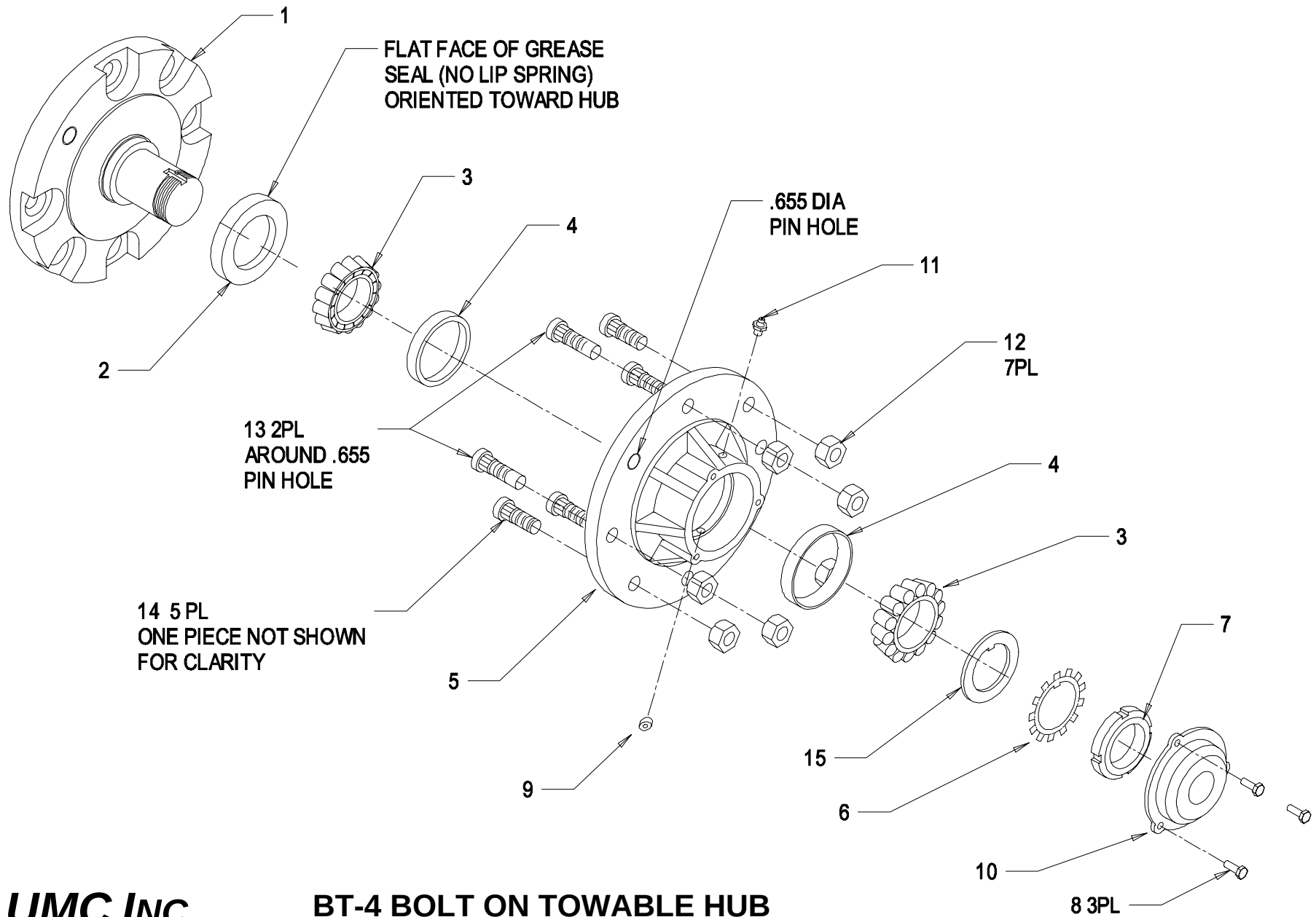
04301-114A

ITEM	QTY	DESCRIPTION	PART #
1	1	SHAFT, BT-4-B SINGLE PIN	04301-211A
2*	1	SEAL, GREASE 2.625 ID x 3.5 OD	04301-701A
3	2	BEARING, CONE 2.00 ID (LM 104949)	06141-806A
4	2	BEARING, CUP 3.25 OD (LM 104911)	06143-802A
5	1	HUB, BT-4-B SINGLE PIN	04301-212A
6	1	WASHER, LOCK TAB M50 X 2mm THICK	04301-802B
7	1	NUT, LOCK M50 X 1.5	04301-801A
8	3	SCREW, HX HD ¼ -20 X .5LG	04301-806A
9	1	FITTING, RELIEF 1-5 PSI (ALEMITE 321839)	06140-702A
10	1	CAP, BOLT-ON HUB BT-4	04301-203A
11**	1	FITTING, LUBE M10 SAE TYPE	04301-803A
12	7	NUT, WHEEL LUG 9/16-18	06142-801A
13	2	BOLT, RNCB 9/16-18 X 1 7/8	04300-802A
14	5	BOLT, RNCB 9/16-18 X 1 5/8	06143-801A
15	1	WASHER, TONGUED 50mm X 4mm THICK	04301-807B

* Note: Item 2 alternate is "04300-701A" Oil Seal (AD-7823EO NOK) or (26186 CR). Install alternate Oil Seal with the "Lip Spring" towards the Hub.

SEE MAINTENANCE MANUAL FOR PROPER SEAL INSTALLATION

** Note: Item 11 alternate is fitting 06140-701A (ALEMITE 1644-B), use thread sealer.



UMC Inc.

**BT-4 BOLT ON TOWABLE HUB
04301-104A**

BOLT-ON TOWABLE BT-4
RETAIL PARTS/MATERIAL LIST
04301-104A

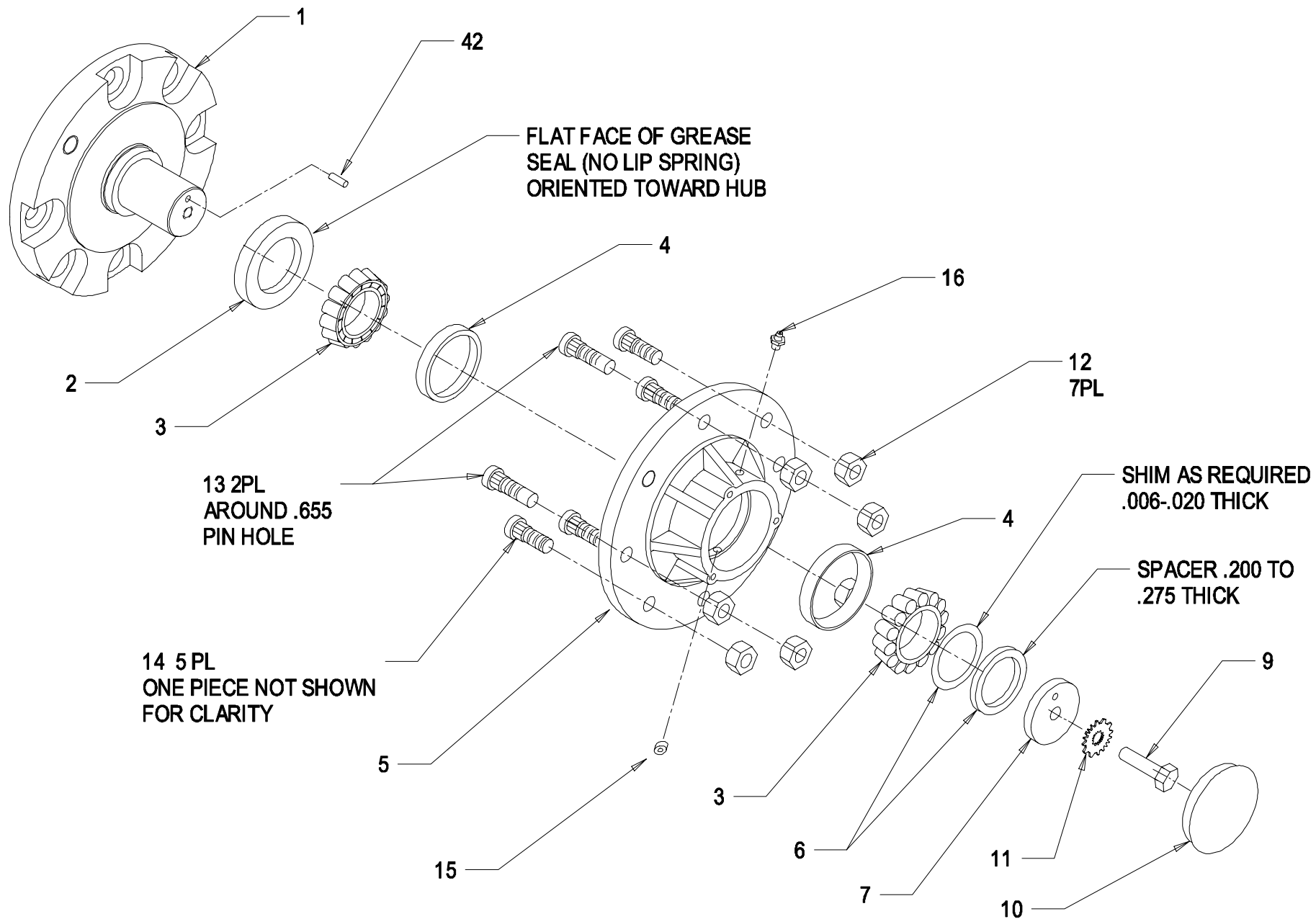
ITEM	QTY	DESCRIPTION	PART #
1***	1	SHAFT, BT-4- SINGLE PIN	04301-201A
2*	1	SEAL, GREASE 2.625 ID x 3.5 OD	04301-701A
3	2	BEARING, CONE 2.00 ID (LM 104949)	06141-806A
4	2	BEARING, CUP 3.25 OD (LM 104911)	06143-802A
5	1	HUB, BT-4- SINGLE PIN	04301-202A
6***	1	WASHER, LOCK TAB M50 X 1.5mm THICK	04301-802B
7	1	NUT, LOCK M50 X 1.5	04301-801A
8	3	SCREW, HX HD ¼ -20 X .5LG	04301-806A
9	1	FITTING, RELIEF 1-5 PSI (ALEMITE 321839)	06140-702A
10	1	CAP, BOLT-ON HUB BT-4	04301-203A
11**	1	FITTING, LUBE M10 SAE TYPE	04301-803A
12	7	NUT, WHEEL LUG 9/16-18	06142-801A
13	2	BOLT, RNCB 9/16-18 X 1 7/8	04300-802A
14	5	BOLT, RNCB 9/16-18 X 1 5/8	06143-801A
15	1	WASHER, TONGUED 50mm X 3mm THICK	04301-807B

* Note: Item 2 alternate is "04300-701A" Oil Seal (AD-7823EO NOK) or (26186 CR). Install alternate Oil Seal with the "Lip Spring" towards the Hub.

SEE MAINTENANCE MANUAL FOR PROPER SEAL INSTALLATION

** Note: Item 11 alternate is fitting 06140-701A (ALEMITE 1644-B), use thread sealer.

*** Note: Discontinued Item. Please call for availability.



UMC Inc.

BT-3 BOLT ON TOWABLE HUB
04300-104A

**BOLT-ON TOWABLE BT-3
RETAIL PARTS/MATERIAL LIST**

04300-104A

ITEM	QTY	DESCRIPTION	PART #
1***	1	SHAFT, BT-SINGLE PIN	04300-203A
2*	1	SEAL, GREASE 2.625 ID x 3.5 OD	04301-701A
3	2	BEARING, CONE 2.00 ID (LM 104949)	06141-806A
4	2	BEARING, CUP 3.25 OD (LM 104911)	06143-802A
5	1	HUB ASSY, B.T. 7XX	04300-108A
6***	A/R	SHIM, BEARING (OD 2.640")	04300-206*
7	1	SPACER, TOWABLE SHAFT	06140-204A
8	1	PIN, SPRING SLOT ¼" DIA X .75 LONG	04300-804A
9	1	SCREW, HEX HEAD CAP ½-13 X 1" LONG	06140-801A
10	1	CAP, HUB BT-3	04300-205A
11	1	WASHER, LOCK ½ " INTERNAL TOOTH	04300-803A
12	7	NUT, WHEEL LUG 9/16-18	06142-801A
13**	2	BOLT, RNCB 9/16-18 X 1 7/8	04300-802A
14**	5	BOLT, RNCB 9/16-18 X 1 5/8	06143-801A
15**	1	FITTING, RELIEF 1-5 PSI (321839 ALEMITE)	06140-702A
16**	1	FITTING, LUBE 1/8-27 NPT (1644-B ALEMITE)	06140-701A
17	1	SHIM KIT, BT-3 (NOT SHOWN) UPDATED	04300-901A

* Note: Item 2 alternate is "04300-701A" Oil Seal (AD-7823EO NOK) or (26186 CR). Install alternate Oil Seal with the "Lip Spring" towards the Hub.

SEE MAINTENANCE MANUAL FOR PROPER SEAL INSTALLATION

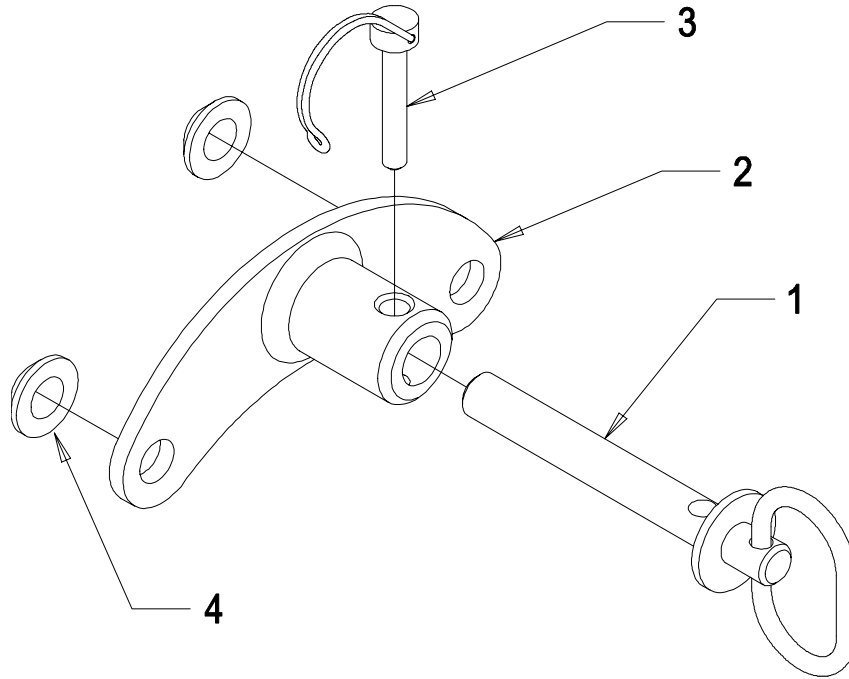
** Note: Items marked with ** are part of the hub assy. item 5.

Note: Item 6 has been updated to a larger 2.640" od shim.

Note: Item 16 alternate is fitting 06140-701A (ALEMITE 1644-B), use thread sealer.

*** Note: Discontinued Item. Please call for availability.

TOWABLE PIN AND BRACKET ASSEMBLY



STEP PIN/BRACKET ASSY (5/8" Dia. X 6") RETAIL PARTS / MATERIAL LIST 04041-102A			
ITEM #	DESCRIPTION	QTY	PART NUMBER
1	STEP PIN ASSEMBLY, 5/8" DIA. X 6"	1	04041-203A
2	CRESCENT BRACKET WELDMENT FOR 5/8" PIN	1	04040-401A
3	CER CLIP WELDMENT	1	04041-204A
4	SPACER, RIM CONE 9/16" ID	1	04300-805A

PIN/BRACKET ASSY (3/4" Dia. X 6") RETAIL PARTS / MATERIAL LIST 04041-101A			
ITEM #	DESCRIPTION	QTY	PART NUMBER
1	PIN ASSEMBLY, 3/4" DIA. X 6"	1	04041-206A
2	CRESCENT BRACKET WELDMENT FOR 3/4" PIN	1	04041-401A
3	CER CLIP WELDMENT	1	04041-204A
4	SPACER, RIM CONE 9/16" ID	1	04300-805A

STEP PIN ASSY (5/8" Dia. X 6" Lg STEP PIN)

Replacement for 04040-104A Short 5/8" Dia. x 4 5/8" Lg Pin

ITEM #	DESCRIPTION	PART NUMBER
1	STEP PIN ASSY, 5/8" DIA. X 6" LONG	04041-203A

NOTE:

THIS PIN REPLACES THE 4 5/8" LONG STYLE PINS. IT FEATURES A MACHINED STEP DESIGNED TO OPTIMIZE THE PIN ENGAGEMENT AND TO CLEAR THE SLIGHTLY SMALLER ID HOLE FOR THE "RIBBED NECK CARRIAGE BOLT" ON THE GEARBOX WHEEL FLANGE.

IN SOME CASES IT MAY BE NECESSARY TO LOOSEN THE BRACKET AND/OR WHEEL BOLTS TO RESET THE ALIGNMENT.

IN SOME CASES IT MAY BE NECESSARY TO RUN A HAND FILE THROUGH THE BOLT-HOLE ON THE GEARBOX WHEEL FLANGE TO REMOVE ANY BURRS OR OBSTRUCTIONS.

DIRECT REPLACEMENT AND ALTERNATE ITEMS:

* 04041-202A Pin 6" std.	Replaces	04040-102A Pin
* 04041-204A Cir Clip	Replaces	04040-403A Clip

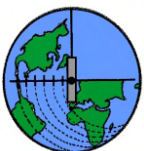
UNIVERSAL MOTION COMPONENTS

SPARE PARTS CATALOG

IRRIGATION - Couplers

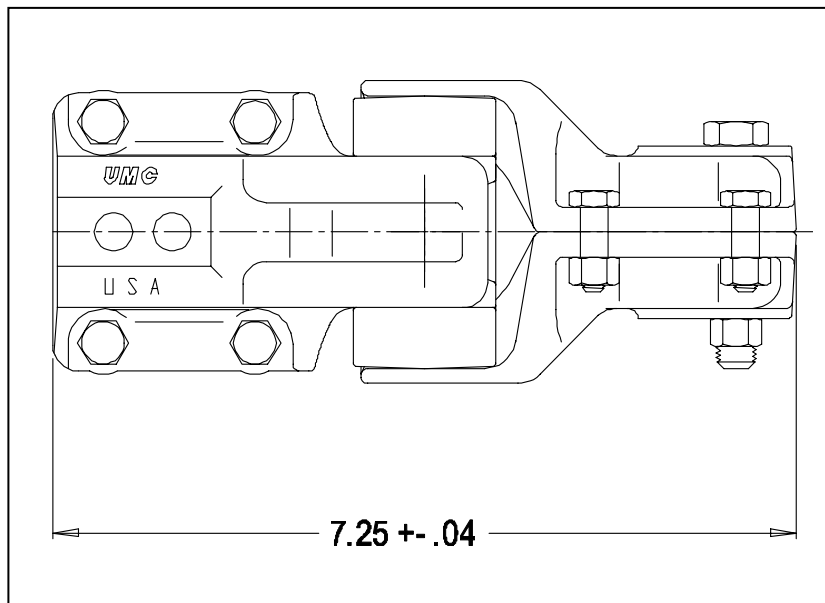
MODEL	Description	P/N	PAGE
011*	Standard Urethane Coupler Assembly	01355-111*	46
021*	Alignment Urethane Coupler Assembly	01355-121*	48

UNIVERSAL MOTION COMPONENTS, Co. Inc.



2920 Airway Ave, Costa Mesa, Ca. 92626-6008
Phone: (714) 437-9600 Fax: (714) 437-9700
E-mail: sales@umcproducts.com Web: <http://www.umcproducts.com>

STANDARD DRIVE-LINE COUPLER ASSEMBLY P/N 01355-111*



DRIVE LINE COUPLER ASSEMBLIES

MODEL #	DESCRIPTION	ENDS	PART NUMBER
011-G	COUPLER ASSY, 1" R & 7/8" Sq. X 1 1/8" R & 1" Sq.	#1 & #8	01355-111G
011-I	COUPLER ASSY, 1 1/8" R & 1" X 2 ENDS	#8 & #8	01355-111I
011-M	COUPLER ASSY, 1" R & 7/8" Sq. Tow X 2 ENDS	#1 & #1	01355-111M
011-N	COUPLER ASSY, 1" R & 7/8" Sq. X 3/4" Sq. Tow	#1 & #2	01355-111N
011-P	COUPLER ASSY, 1" R & 7/8" Sq. w/Key Slot X 3/4" Sq. Tow	#6 & #2	01355-111P
011-R	COUPLER ASSY, 3/4" Sq. X 1 1/8" R & 1" Sq. Tow	#2 & #8	01355-111R

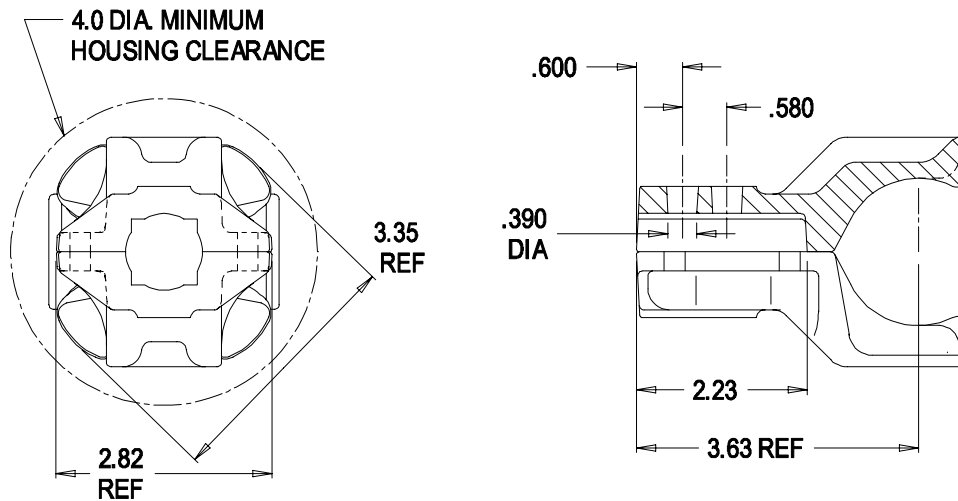
DISCONTINUED DRIVE LINE COUPLER ASSEMBLIES

MODEL #	DESCRIPTION	ENDS	PART NUMBER	REPLACE- MENT
011-A	COUPLER ASSY, 1" R & 7/8" Sq. X 2 ENDS	#1 & #1	01355-111A	001-M
011-B	COUPLER ASSY, 1" R & 7/8" Sq. X 3/4" Sq.	#1 & #2	01355-111B	011-N
011-H	COUPLER ASSY, 3/4" Sq. X 1 1/8" R & 1" Sq.	#2 & #8	01355-111H	011-R
011-L	COUPLER ASSY, 1" R & 7/8" w/Key Slot X 3/4" Sq.	#6 & #2	01355-111L	011-P

NOTE: ASSEMBLY INCLUDES 4 ARMS, 1 INSERT AND BOLT KIT AND IS SHIPPED DIS-ASSEMBLED IN A SEALED PLASTIC BAG.

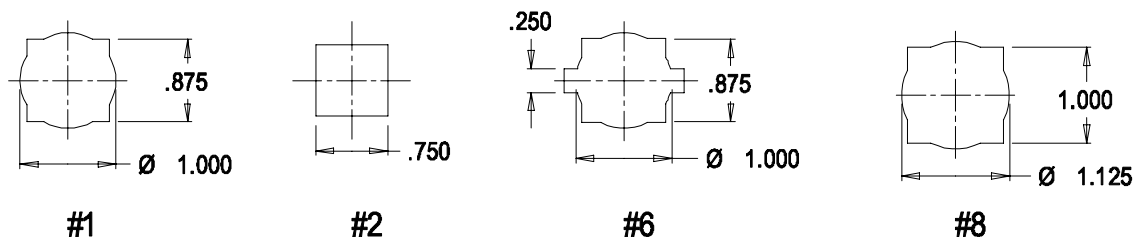
NOTE: ENDS ARE SQUARE UNLESS NOTED "R" FOR ROUND.

TYPICAL STANDARD COUPLER DIMENSIONS P/N 01355-111*

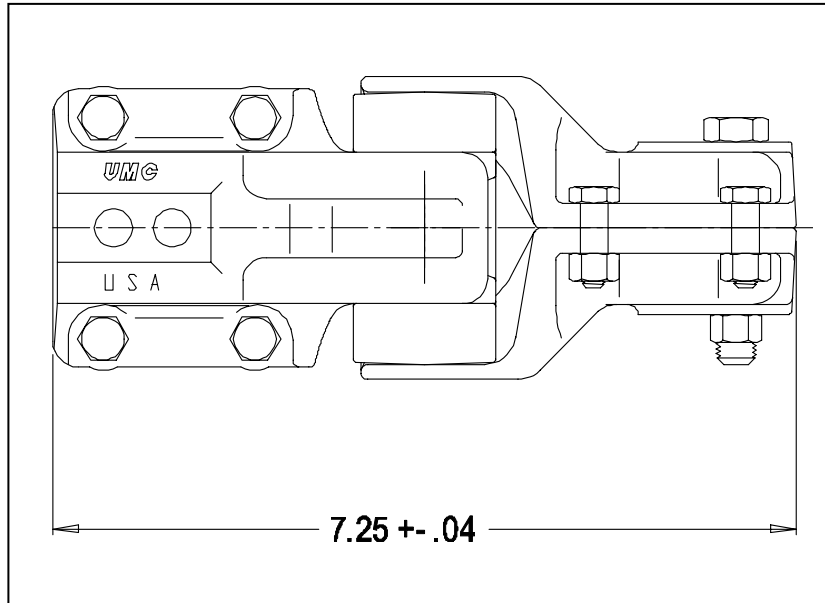


COUPLER COMPONENTS RETAIL PARTS/MATERIAL LIST		
MODEL NUMBER	DESCRIPTION	PART NUMBER
001-1	ARM, LOAD #1 1" RND & 7/8" SQ	01355-301A
001-2	ARM, LOAD #2 3/4" SQ	01355-301B
001-6	ARM, LOAD #6 1" RD & 7/8" SQ w/KEY	01355-301E
001-8	ARM, LOAD #8 1 1/8" RD & 1" SQ	01355-301R
001-5U	INSERT, HIGH TOURQE COUPLER STANDARD	06550-704B
001-5UT	INSERT, HIGH TOURQE COUPLER GROOVED (TOW)	06550-704A
N/A	BOLT KIT ASSY, STANDARD SQUEX BOLT	01352-104B

END TYPES AVAILABLE



ALIGNMENT DRIVE-LINE COUPLER ASSEMBLY P/N 01355-121*

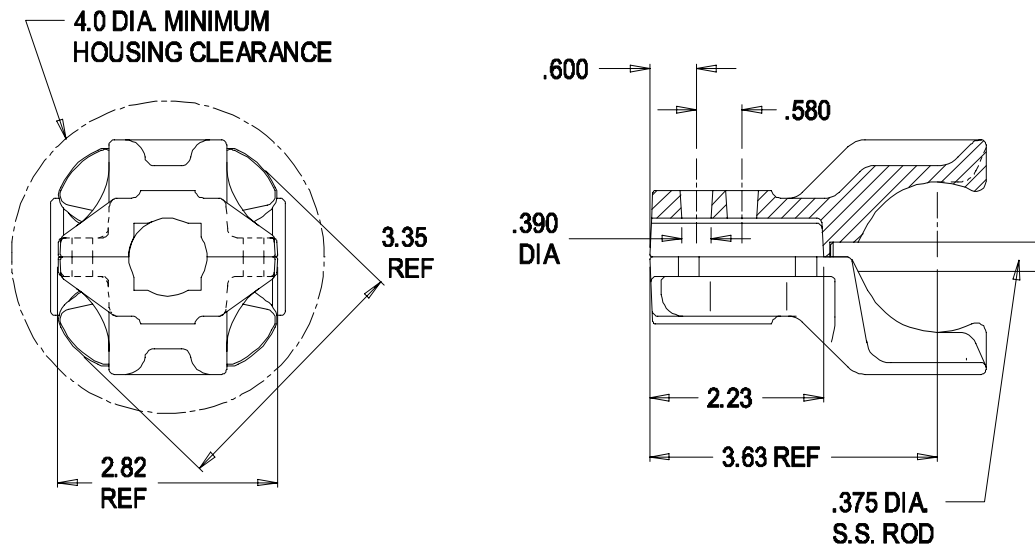


DRIVE LINE COUPLER ASSEMBLIES			
MODEL #	DESCRIPTION	ENDS	PART NUMBER
021-A	COUPLER ASSY, 1" R & 7/8" Sq. X 2 ENDS	#1 & #1	01355-121A
021-G	COUPLER ASSY, 1" R & 7/8" Sq. X 1 1/8" R & 1" Sq.	#1 & #8	01355-121G
021-M	COUPLER ASSY, 1" R & 7/8" Sq. Tow X 2 ENDS	#1 & #1	01355-121M

NOTE: ASSEMBLY INCLUDES 4 ARMS, 1 INSERT AND BOLT KIT AND IS SHIPPED DIS-ASSEMBLED IN A SEALED PLASTIC BAG.

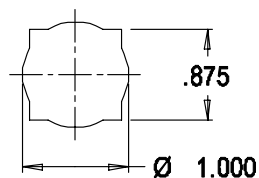
NOTE: ENDS ARE SQUARE UNLESS NOTED "R" FOR ROUND.

TYPICAL ALIGNMENT COUPLER DIMENSIONS P/N 01355-121*

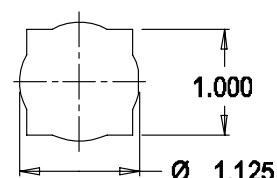


COUPLER COMPONENTS RETAIL PARTS/MATERIAL LIST		
MODEL NUMBER	DESCRIPTION	PART NUMBER
001-1	ARM, LOAD #1 1" RND & 7/8" SQ	01355-301A
001-8	ARM, LOAD #8 1 1/8" RD & 1" SQ	01355-301R
001-5U	INSERT, HIGH TOURQE COUPLER STANDARD	06550-704B
001-5UT	INSERT, HIGH TOURQE COUPLER GROOVED (TOW)	06550-704A
N/A	BOLT KIT ASSY, STANDARD SQUEX BOLT	01352-104B

END TYPES AVAILABLE



#1 A



#8 G

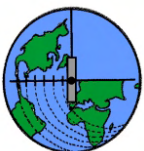
UNIVERSAL MOTION COMPONENTS

SPARE PARTS CATALOG

IRRIGATION - Maintenance

Section	Description	Page
I	Final Drive Gearbox Maintenance Procedures	53
II	Spur Gear Center Drive Maintenance Procedures	57
III	Worm Gear Center Drive Maintenance Procedures	59
IV	C-Face Motor Maintenance Procedures	61
V	Towable Hub Assembly Maintenance Procedures	62
VI	Drive Line Coupler Maintenance Procedures	66

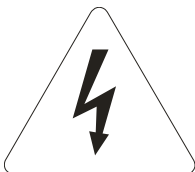
UNIVERSAL MOTION COMPONENTS, Co. Inc.



2920 Airway Ave, Costa Mesa, Ca. 92626-6008
Phone: (714) 437-9600 Fax: (714) 437-9700
E-mail: sales@umcproducts.com Web: <http://www.umcproducts.com>

UMC PIVOT DRIVE TRAIN MAINTENANCE

THE FOLLOWING MAINTENANCE PROCEDURES MUST BE PERFORMED OR THE DRIVE TRAIN WARRANTY WILL BE VOID.



WARNING



- **TO REDUCE THE POTENTIAL OF A SEVERE ELECTRICAL SHOCK AND TO PREVENT BODILY INJURY FROM SUDDEN STARTUP OF THE MOTOR, ALWAYS DISCONNECT ALL ELECTRICAL POWER SOURCES BEFORE INITIATING ANY MAINTENANCE OR REPAIRS.**
- **ALWAYS BE SURE THAT YOUR BODY IS DRY AND THAT THE GROUND UNDER YOUR FEET IS DRY BEFORE TOUCHING THE MOTOR OR ANY OTHER ELECTRICAL EQUIPMENT ON THE MACHINE. FAILURE TO HEED THIS WARNING MAY CAUSE PERSONAL INJURY DUE TO SEVERE ELECTRICAL SHOCK.**

THE FINAL DRIVE WHEEL GEARBOX, THE SPUR GEAR CENTER DRIVE GEARBOX, THE WORM CENTER DRIVE GEARBOX, THE C-FACE MOTOR, THE BOLT ON TOWABLE HUB AND THE DRIVE LINE COUPLERS REQUIRE PERIODIC, YEARLY AND IN-SEASON MAINTENANCE. PLEASE REFER TO THE FOLLOWING SERVICE INFORMATION FOR THE ABOVE ITEMS.

IF YOU SHOULD HAVE ANY QUESTIONS, PLEASE CALL YOUR LOCAL DEALER.

I - FINAL DRIVE GEARBOX MAINTENANCE PROCEDURES

- A. THE FINAL DRIVE GEARBOX MUST BE SERVICED AS FOLLOWS AFTER EACH CROP CYCLE, A MINIMUM OF ONCE A YEAR.
SEE SECTION "V" "TOW HUB MAINTENANCE" FOR 725-UT TOWABLE GEARBOXES.
SEE SECTION "D" AND "E" FOR ADDITIONAL REQUIREMENTS FOR TNT AND 760 MODELS.

1. Inspect input and output shaft seals for leakage. Should either the input or output shaft seals show excessive leakage, the seals should be replaced. All replaced seals must be installed with generous amounts of #2 Barium/Lithium base grease (or use equivalent quality #2 water resistant grease) on the seal lips.
2. External (dust exclusion) seals should be used to keep dirt and water out of internal seal locations. If the external seals are damaged or worn, replace with new seals. Note that there are several different types of seals available.
3. The seal drain hole (on 720 and previous models and on 725 units shipped before October 1996) located on both input caps must be kept clear of dirt. Clear the hole using a 12-gauge wire, a nail or a punch. Lightly rotate the tool to loosen and remove dirt. **CAUTION, DO NOT DAMAGE THE SEAL CASE OR LIPS.** See Diagram FD-1.
4. The vent hole located on the side of the Expansion Chamber must be kept clear of dirt. Use a soft brush to clear the opening. **DO NOT INSERT ANY OBJECTS INTO THE VENT HOLE, DAMAGE TO THE RUBBER DIAPHRAGM MAY OCCUR.**

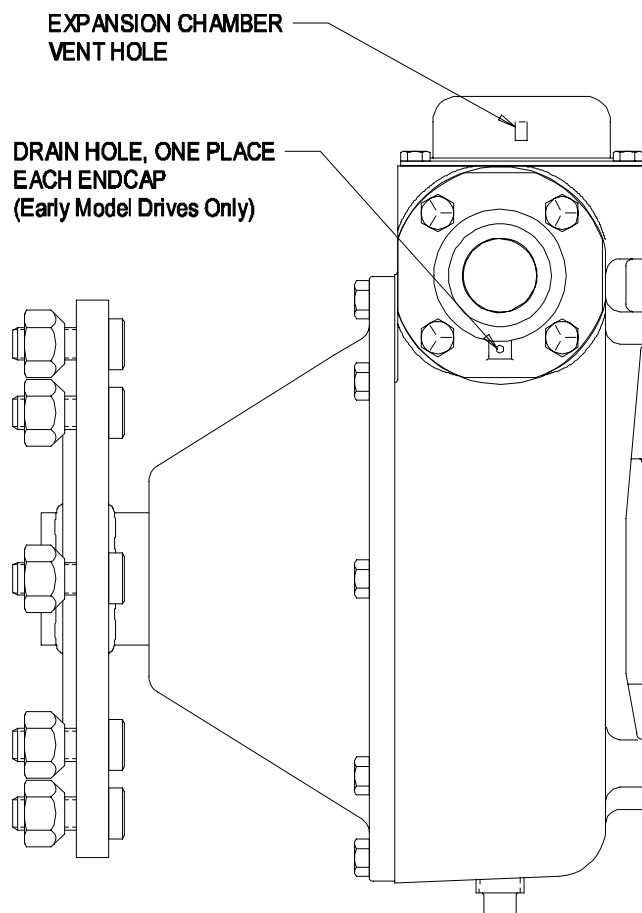


DIAGRAM FD-1

5. Each input shaft should be checked for excessive endplay after each crop cycle, this is done by disconnecting the drive-line coupler & tapping the input shaft on both sides with a dead blow hammer or mallet. If any axial endplay is present, input shims should be installed to eliminate the endplay.
6. Inspect the Hub Cap (Shaft Guard), on the unused side of the input shaft, for looseness, damage or corrosion. Replace if necessary or if it is missing. This will protect the input shaft and seals from the elements.
7. All 3/8-16 cover and end cap bolt torque should be 28-31 ft. lbs.
8. All 9/18-18-wheel lug nut torque should be 115-120 ft. lbs.
9. Remove the plug located at bottom of the gearbox and completely drain the gearbox oil. If the oil is contaminated or emulsified, flush the gearbox with a cup of specified oil and let it drain completely.
10. Replace the drain plug at the bottom of the gearbox. Fill the gearbox with the proper oil, through the top fill hole, to the operating oil level range. The oil level range is from the top of the Worm shank (next to the bearing cone) to the bottom of the oil fill hole (at 70° F ambient temperature) as shown in Diagram FD-2. Refer to oil specification.

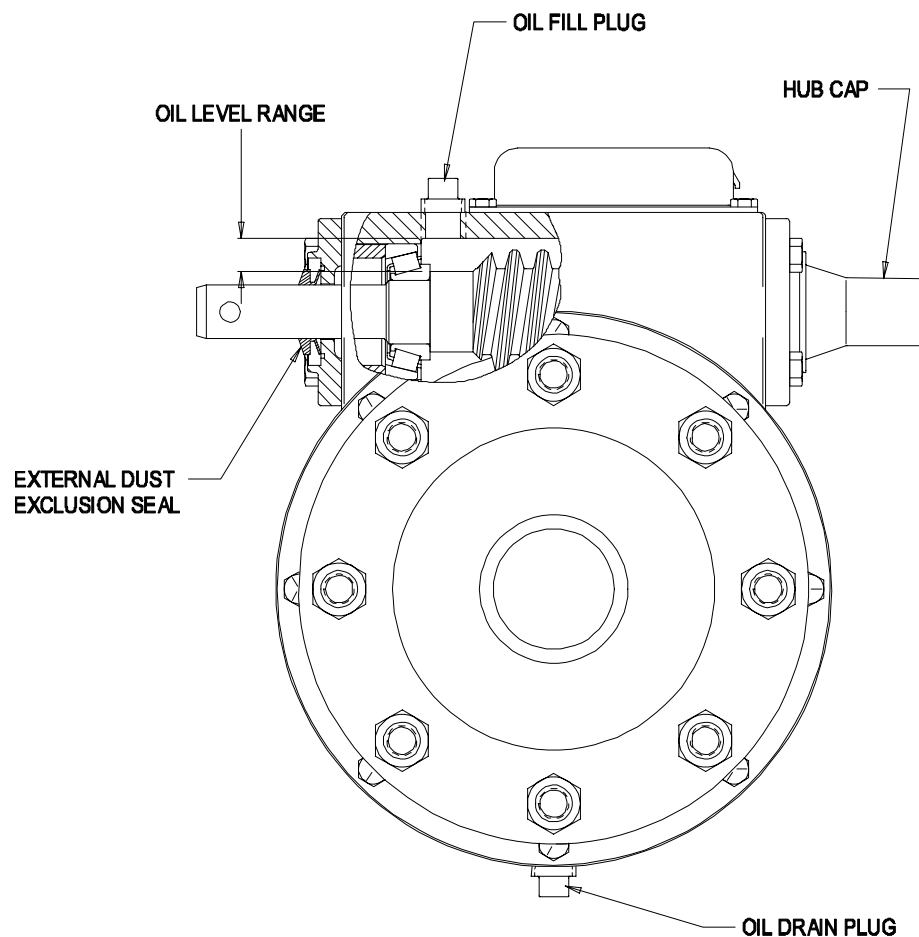


DIAGRAM FD-2

B. FINAL DRIVE GEARBOX LUBRICANTS
SEE SECTION "V" "TOW HUB MAINTENANCE" FOR 725-UT TOWABLE GEARBOXES.

A GL-5 SAE 85-140, MIL-C-2105, ISO 460, AGMA 7EP or equivalent gear lube must be used in final drive gearboxes. Some common brands meeting this specification are shown below. Contact your dealer or local petroleum product distributor for other equivalent products. Use of improper oil will void the gearbox warranty.

- * Hector S-150 Philube 1-LB Gear Oil #140
- * Chevron Gear Compound #140
- * Valvoline 85-140 Gear Oil
- * Mobil Gear 85-140
- * Pennzoil 85-140
- * Texaco Multigear Lubricant EP SAE 85W-140

Oil capacity 1 U.S. gallon approximately

C. IN-SEASON FINAL DRIVE GEARBOX MAINTENANCE
SEE SECTION "V" "TOW HUB MAINTENANCE" FOR 725-UT TOWABLE GEARBOXES.

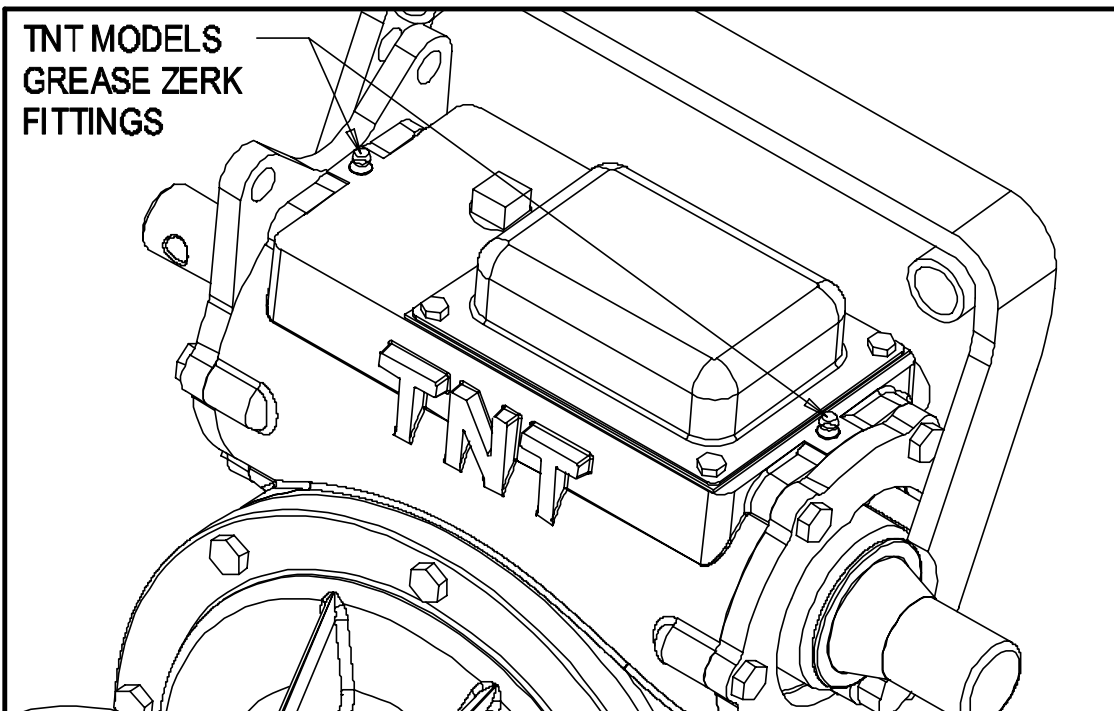
The final drive gearboxes should be inspected periodically during the operating season, for the following:

1. The proper oil level should be maintained at all times. See Diagram FD-2.
2. Contaminated or emulsified oil should be replaced with new oil.
3. Input seal drain holes on the final drive gearbox should be kept clear. See Diagram FD-1.
4. Expansion chamber vent hole should be kept clear. **CAUTION, DO NOT INSERT ANY OBJECT INTO THE HOLE, DAMAGE MAY OCCUR TO THE RUBBER DIAPHRAGM.**
5. Input & output shaft seals should be inspected for excessive leaks and replaced if necessary.
6. **FAILURE TO MAINTAIN GEARBOXES AS SPECIFIED WILL VOID THE GEARBOX WARRANTY.**

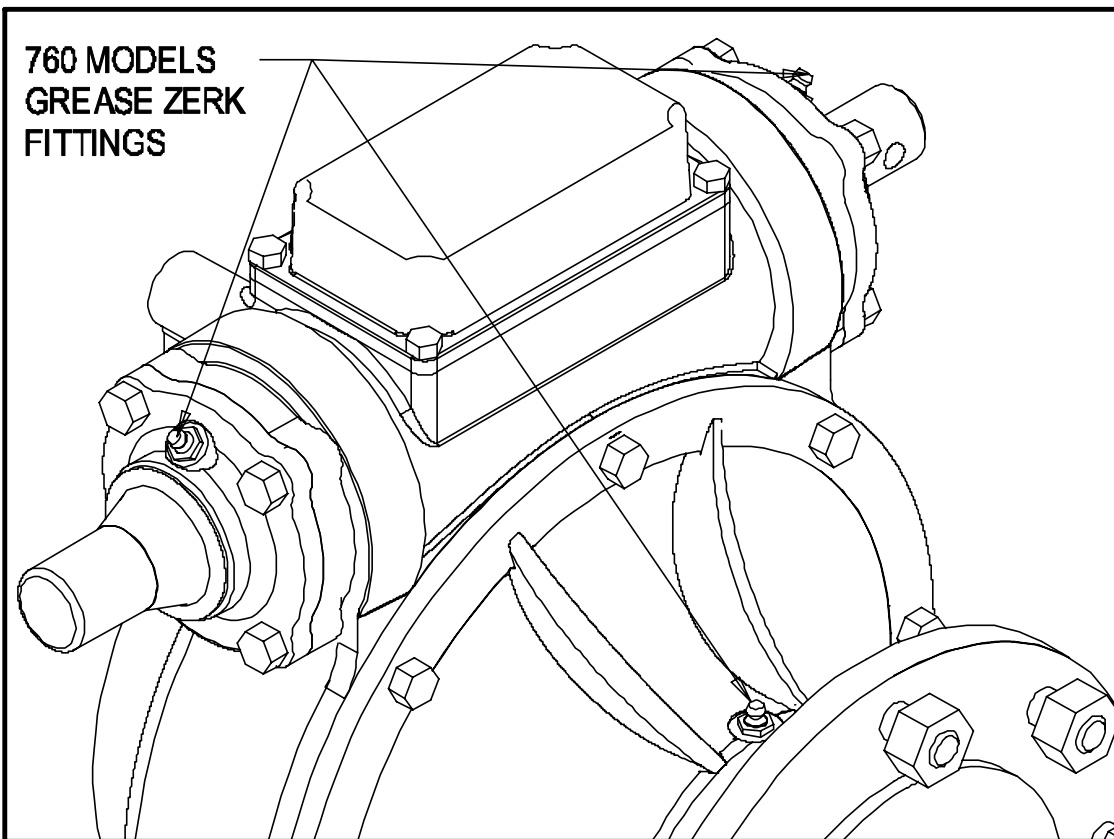
D. TNT Models are supplied with grease fittings located on the top of the gearbox (see fig. On the next page) for lubricating the bale assembly. Use a #2 lithium grease at initial installation and depending of frequency of towing once or twice per season. Actuate the handle a few times to distribute grease after lubrication.

E. The 760 Heavy duty model gearbox is supplied with three grease fittings. Two are located on the top of the gearbox and the third is located at the output shaft position. (see fig. On the next page) These fittings are provided to extend the seal life and should lubricated once per season and at initial installation with #2 lithium grease. NOTE use a small amount of grease as the seal lips will not allow excess grease to exit the box but be forced inside.

**TNT MODELS
GREASE ZERK
FITTINGS**



**760 MODELS
GREASE ZERK
FITTINGS**



II - SPUR GEAR CENTER DRIVE MAINTENANCE PROCEDURES



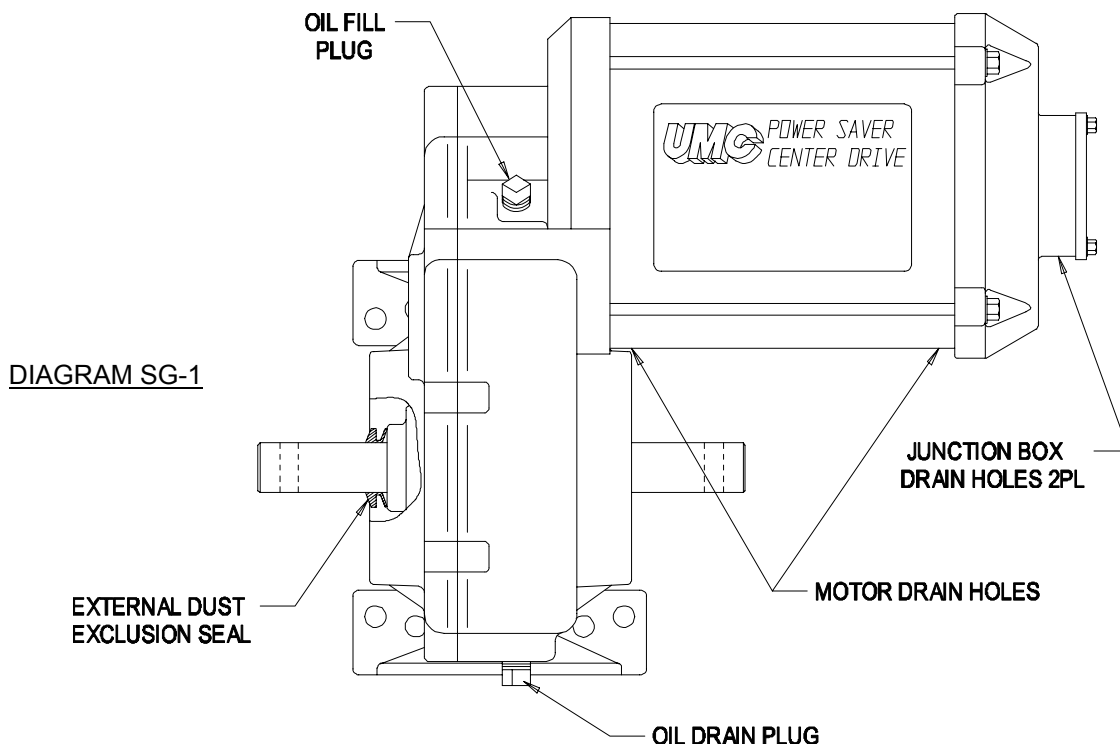
WARNING



- To reduce the potential of a severe electrical shock and to prevent bodily injury from sudden startup of the motor, always disconnect all electrical power sources before initiating any maintenance or repairs.

A. THE SPUR GEAR CENTER DRIVE MUST BE SERVICED AS FOLLOWS AFTER EACH CROP CYCLE, A MINIMUM OF ONCE A YEAR.

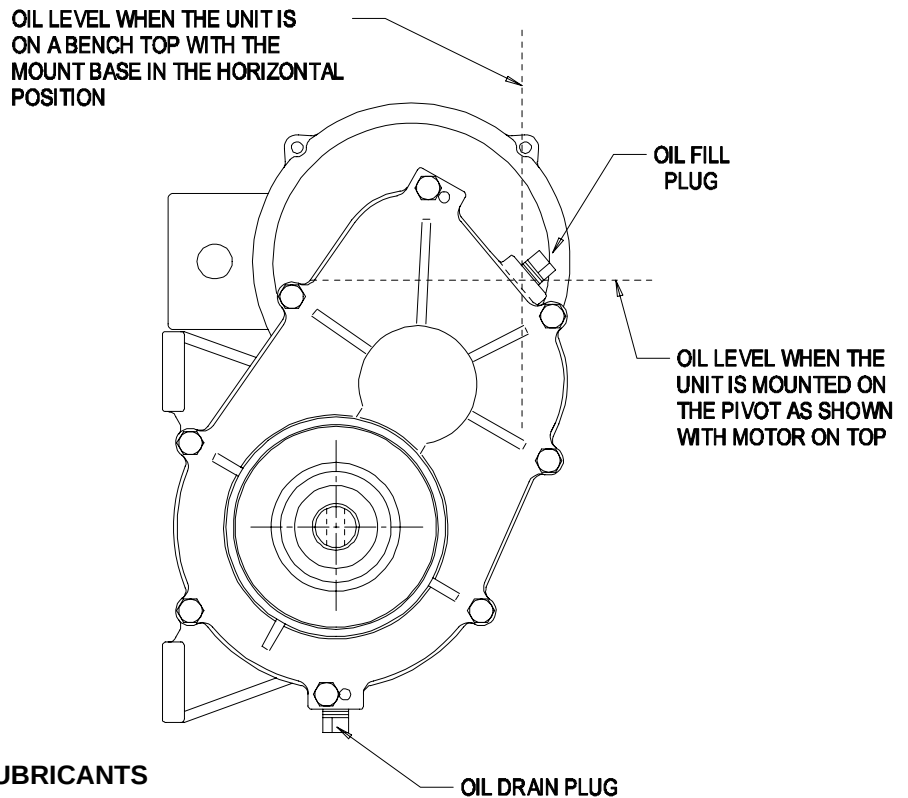
1. Inspect output oil seals for leakage. Should either of the seals show excessive leakage, the seals should be replaced. All replaced seals must be installed with generous amounts of #2 Barium/Lithium base grease (or equivalent type #2 water resistant grease) on the seal lips.
2. External dust exclusion seals should be used to keep dirt and water out of internal seal locations. If the external seals are damaged or worn, replace with new seals.
3. The two (2) drain holes located under the motor-can must be kept clear to allow for drainage of accumulated moisture inside the motor. If any oil is found weeping out of the water drain holes, remove the motor stator and inspect the rotor seal for leakage. Replace the seals same as step 1 above. **DO NOT OPERATE THE UNIT WITHOUT INSPECTING THE ROTOR SEAL, A SEVERE ELECTRIC SHORT MAY OCCUR IF THE PROBLEM IS NOT CORRECTED.** Diagram SG-1.
4. The two (2) drain holes located under the endbell must be kept clear to allow for drainage of accumulated moisture inside of the junction box. Diagram SG-1.



5. Remove the drain plug located at bottom of the gearbox and completely drain the gearbox oil. If the oil is contaminated or emulsified, flush the gearbox with a cup of specified oil and let it drain completely.

6. Replace the drain plug and refill until the oil (at 70°F ambient temperature) reaches the threads on the oil fill hole. See Diagram SG-2 for the oil level range at the bench top and at the pivot-mounted position. Refer to oil specification.

DIAGRAM SG-2



B. SPUR GEAR CENTER DRIVE LUBRICANTS

1. Use SAE 50W, or SAE 20W-50 multi viscosity engine oil. Use ISO 460 or EP 460 gear oil. Use of improper oil will void the gearbox warranty.
2. Oil capacity is 0.4 U.S. Gallons or 1.6 Liters approximately.

C. IN-SEASON SPUR GEAR CENTER DRIVE MAINTENANCE

The spur gear center drive gearboxes should be inspected periodically during the operating season.

1. The proper oil level should be maintained at all times. See Diagram SG-2.
2. Contaminated or emulsified oil should be replaced with new oil.
3. Input & output shaft seals should be inspected for excessive leaks and replaced if necessary. Check motor can drain holes for oil. See step 2 in section A above.
4. Motor can and junction box drain holes must be kept clear so that any moisture can drain out. See Diagram SG-1.
5. **FAILURE TO MAINTAIN THE CENTER DRIVE AS SPECIFIED WILL VOID THE CENTER DRIVE WARRANTY.**

III - WORM GEAR CENTER DRIVE MAINTENANCE PROCEDURES

A. THE WORM GEAR CENTER DRIVE MUST BE SERVICED AS FOLLOWS AFTER EACH CROP CYCLE. MINIMUM ONCE A YEAR.

1. Inspect input and output shaft seals for leakage. Should either the input or output shaft seals show excessive leakage, the seals should be replaced. All replaced seals must be installed with generous amounts of #2 Barium/Lithium base grease (or equivalent quality #2 water resistant grease) on the seal lips.
2. External seal protectors should be used to keep dirt and water out of internal seal locations. If the external seals are damaged or worn, replace with new seals.
3. The flange drain holes (5 places) located under the motor mount flange must be clear. Clear the hole with a 12-gauge wire, nail or punch by rotating in the hole to loosen and remove dirt. See Diagram WG-1.

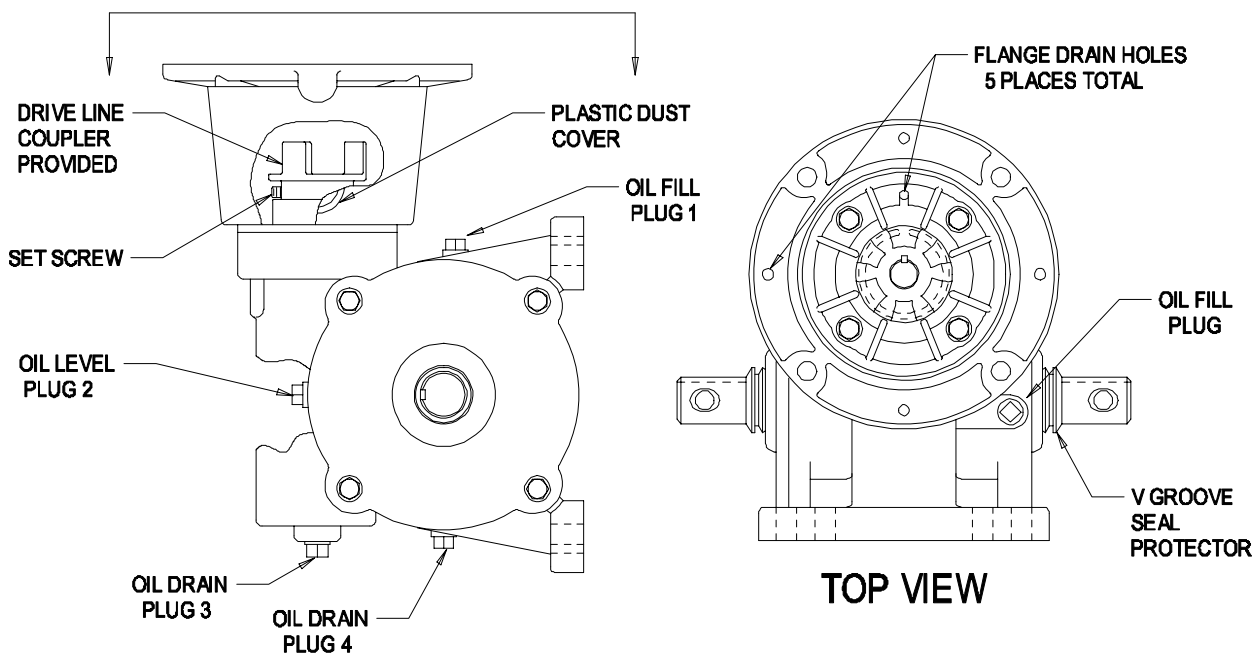


DIAGRAM WG-1

4. All 5/16-18 cover bolts and internal flange bolts should be torqued to 13-15 ft-lbs.
5. Remove the drain plugs located at bottom of worm (#3) and on the bottom of housing (#4) and drain the gearbox oil. If the oil is contaminated or emulsified, flush gearbox with a cup of specified oil and let it drain completely. See Diagram WG-1.
6. Replace the drain plugs and refill the gearbox with oil (at 70● F ambient temperature) through the oil fill hole (#1) to the proper operating level (mid worm gear at plug #2) as shown in Diagram WG-1. Refer to the oil specification.

B. WORM GEAR CENTER DRIVE GEARBOX LUBRICANTS

A ISO 460 or AGMA 7EP gear lube must be used in worm gear center drive gearboxes. Some common brands meeting this specification are listed in section B of Final Drive Gearbox.

Oil capacity 3 1/2 U.S. pints approximately

C. IN-SEASON WORM GEAR CENTER DRIVE MAINTENANCE.

The spur gear center drive gearboxes should be inspected periodically during the operating season.

1. Proper oil level (mid worm gear at plug #2 on Drawing WG-1) should be maintained at all times.
2. Contaminated or emulsified oil should be replaced with new oil.
3. Input and output shaft seals should be inspected for excessive leaks and should be replaced if necessary.
4. **FAILURE TO MAINTAIN GEARBOXES AS SPECIFIED WILL VOID THE GEARBOX WARRANTY.**

IV - C-FACE MOTOR MAINTENANCE PROCEDURES



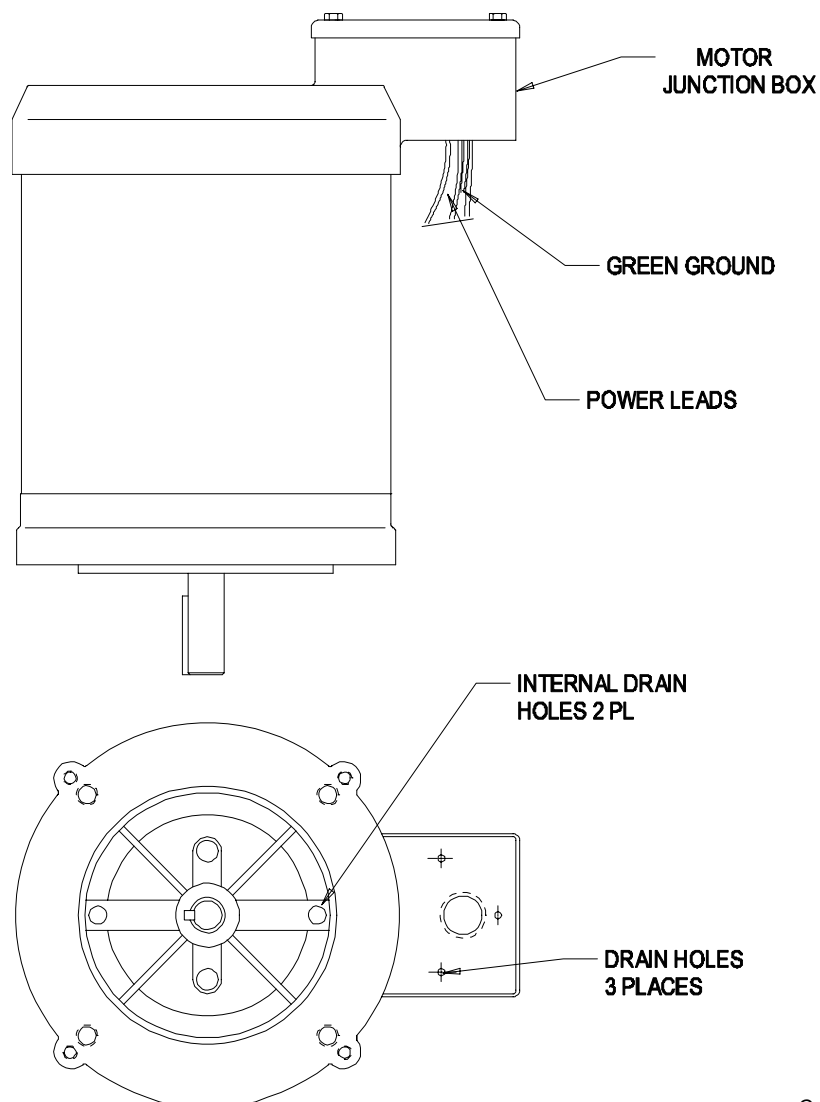
WARNING



- To reduce the potential of a severe electrical shock and to prevent bodily injury from sudden startup of the motor, always disconnect all electrical power sources before initiating any maintenance or repairs.

A. THE C-FACE MOTOR MUST BE SERVICED AS FOLLOWS AFTER EACH CROP CYCLE, A MINIMUM OF ONCE A YEAR.

1. Check all bolts for looseness. Tighten as required.
2. Check the seal tight connector into the junction box for looseness or damage.
3. The three (3) drain holes located under the motor junction box should be kept clear to allow for drainage of accumulated moisture inside the motor junction box.



V - TOWABLE HUB ASSEMBLY MAINTENANCE PROCEDURES

A. THE BT-4, BT-4B AND 725-UT TOWABLE HUB ASSEMBLY'S MUST BE SERVICED AFTER EACH CROP CYCLE, A MINIMUM OF ONCE A YEAR.

1. Remove the bolt on hubcap and check for contaminants such as dirt, water, etc. If no contaminants are found, proceed to step 3 below. If any contaminants are found, completely disassemble and inspect the seal & bearings. Replace as required.
2. Re-assemble the unit. Pack the bearings & seal lips with the appropriate grease type listed below. The SAE lock nut must be tightened to achieve a hub turning torque of 45-60 in-lbs. Install the hubcap using RTV sealer and torque the 1/4-20 screws to 6-8 ft.lbs. Proceed to step 4 below.
3. Towable hub should be checked to determine no bearing play (low bearing pre-load) is present. Check for proper bearing pre-load by rocking tire back and forth to determine play. If any bearing play is observed, the SAE lock nut must be tightened to achieve a hub turning torque of 45-60 in-lbs. Install the hubcap using RTV sealer and torque the 1/4-20 screws to 6-8 ft.lbs.
4. Towable hub should be greased with #2 Barium/Lithium grease or equivalent quality #2 water resistant grease. Fill at the grease fitting until the stem of the fill indicator (relief on the opposite side) is raised approximately 0.125". **DO NOT OVER FILL, OVERFILLING MAY CAUSE SEAL DAMAGE.** Diagram BT-1.
5. All 9/16-18 lug nuts should be torqued to 115-120 ft. lbs.

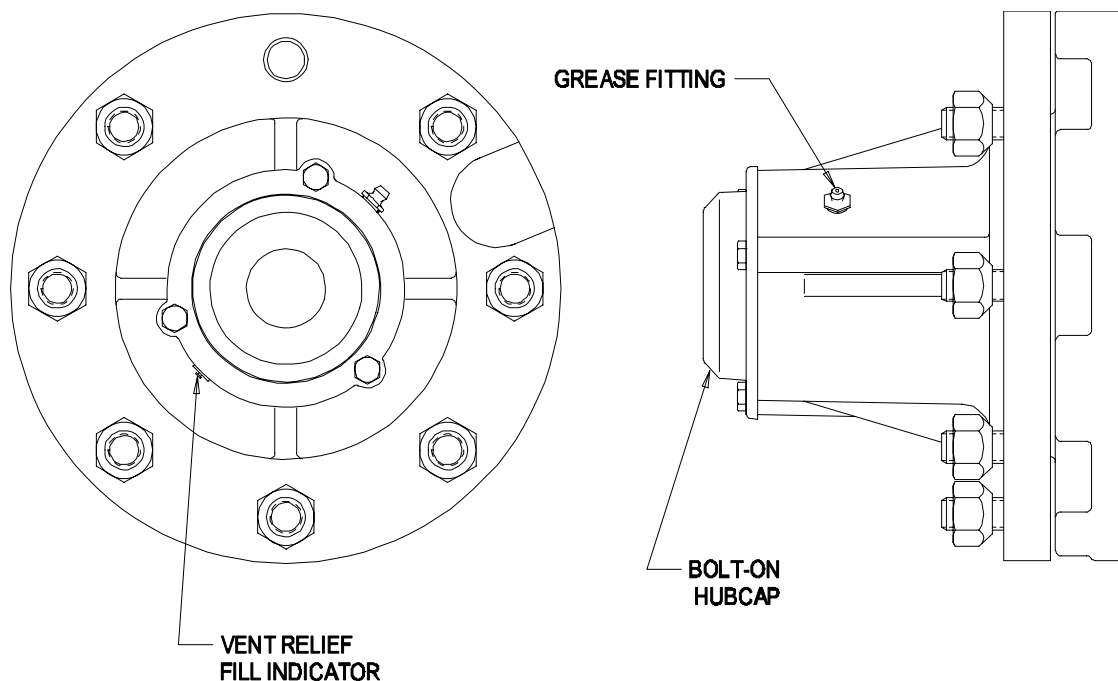


DIAGRAM T-1 – for BT-4, BT-4B and 725-UT
(note- 725-UT not shown)

B. IN-SEASON BT-4, BT-4B AND 725-UT TOWABLE HUB ASSEMBLY MAINTENANCE.

The towable hub assemblies should be inspected periodically during the operating season.

1. Check for proper bearing pre-load by rocking tire back and forth to determine play. See step 3 in the section above.
2. Damaged, loose or missing bolt on hub caps.
3. **FAILURE TO MAINTAIN THE UNIT AS SPECIFIED WILL VOID THE UNIT WARRANTY.**

C. THE BT-3 TOWABLE HUB ASSEMBLY MUST BE SERVICED AFTER EACH CROP CYCLE, A MINIMUM OF ONCE A YEAR.

1. Towable hub should be greased with #2 Barium/Lithium grease or equivalent quality #2 water resistant grease. Fill at the grease fitting until the stem of the fill indicator (relief on the opposite side) is raised approximately 0.125". **DO NOT OVER FILL, OVERFILLING MAY CAUSE SEAL DAMAGE.** Diagram BT-1.
2. All 9/16-18 lug nuts should be torqued to 115-120 ft. lbs.
3. Towable hub should be checked to determine no bearing play (low bearing pre-load) is present. Check for proper bearing pre-load by rocking tire back and forth to determine play. If any bearing play is observed, the Towable hub must be shimmed to achieve a hub turning torque of 25-50 in-lbs.

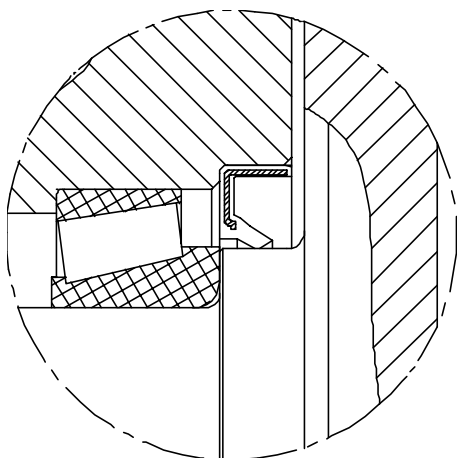
D. IN-SEASON BT-3 TOWABLE HUB ASSEMBLY MAINTENANCE.

The towable hub assemblies should be inspected periodically during the operating season.

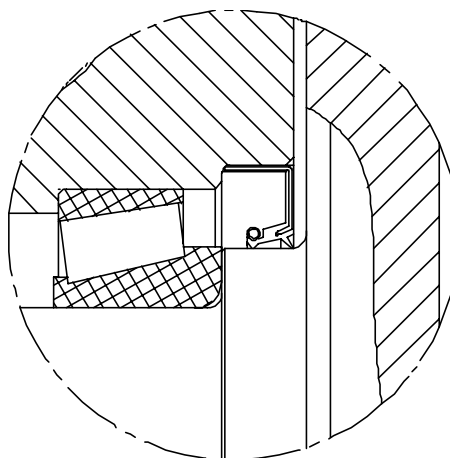
1. Check for proper bearing pre-load by rocking tire back and forth to determine play. See step 3 in the section above.
2. Damaged, loose or missing hub caps.
3. **FAILURE TO MAINTAIN THE UNIT AS SPECIFIED WILL VOID THE UNIT WARRANTY.**

E. SEAL REPLACEMENT – BT-3, BT-4 & BT-4B BOLT-ON TOWABLE UNITS.

The seal on the “BT” units was changed to a “Thick Lip Grease Seal” (no metal spring) starting in late 1998. The previous seal was a “Spring Backed Oil Seal”. The seals are to be installed as shown below, **FAILURE TO DUE SO WILL VOID THE WARRANTY.**



Thick Lip Grease Seal



Spring Backed Oil Seal

F. SEAL REPLACEMENT – 725-UT TOWABLE GEARBOXES.

The seal on the “UT” unit was changed to a “Thick Lip Grease Seal” (no metal spring) which uses a New style hub with a flat bottom, starting February 1999.

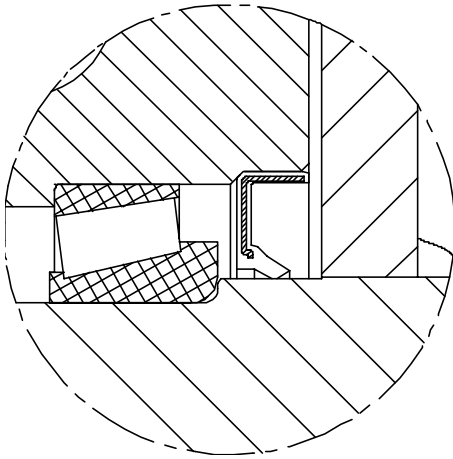
The previous seal was a “Spring Backed Oil Seal” which is used in the Old style hub with a machined undercut.

Replace an Oil type seal with an Oil type seal, likewise for the Grease type seal.

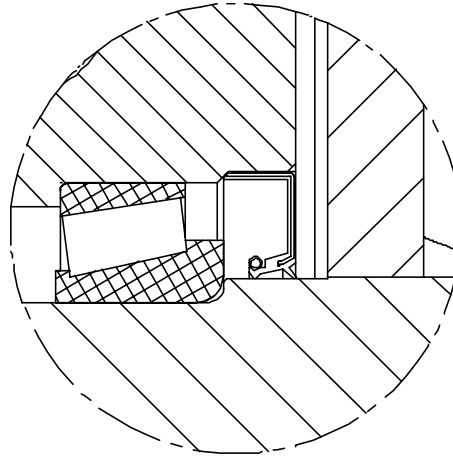
The seals are to be installed as shown on the following page.

FAILURE TO DUE SO WILL VOID THE WARRANTY.

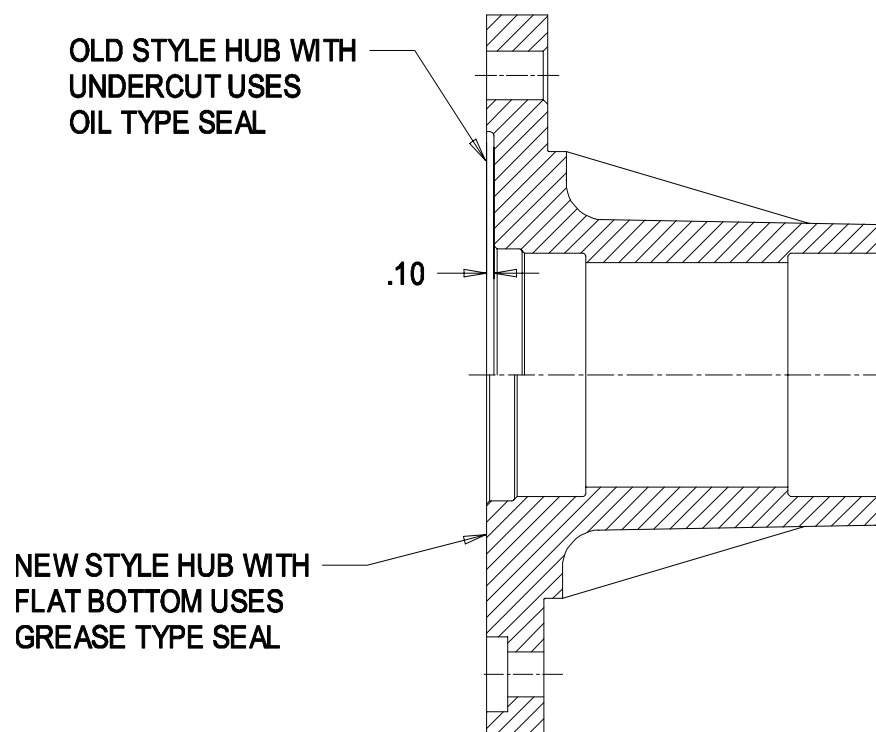
UT TYPE SEAL INSTALLATION



Thick Lip Grease Seal
w/ New style Hub



Spring Backed Oil Seal
w/ Old style Hub



VI - DRIVE LINE COUPLER MAINTENANCE

1. Drive line coupler should be inspected periodically for loose bolts and worn or cracked rubber inserts. Worn inserts should be replaced.
2. Remove any built up dirt or mud from the coupler. Mud & dirt will accelerate the wear on all components.

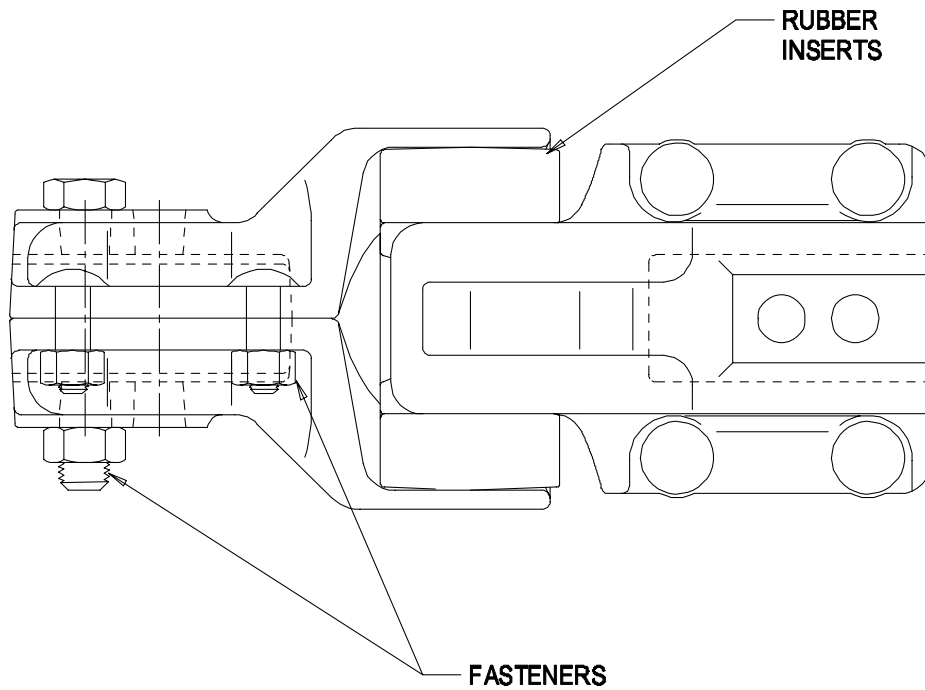


DIAGRAM CPL-1

UNIVERSAL MOTION COMPONENTS



Mission Statement.

Our rapidly evolving technology is changing the way we live and work. These Advances have propelled us into the 21st Century with the certainty of more changes to come. While these changes have generally have been good, it is important to realize that technology itself is not the key to a better future; it is the people who utilize the technology that make the difference.

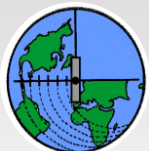
We at UMC are aware that you, our customers, have choices when selecting a vendor.

We believe the values a company holds are an important consideration when doing business.

We will conduct our business with uncompromising integrity, maintain trust and respect for all individuals, achieve our common objective through teamwork and encourage flexibility and innovation. We look forward to the opportunity to work with you now and in the future.

**William F. Smith
Chairman**

UNIVERSAL MOTION COMPONENTS, Co. Inc.



2920 Airway Ave, Costa Mesa, Ca. 92626-6008
Phone: (714) 437-9600 Fax: (714) 437-9700
E-mail: sales@umcproducts.com Web: <http://www.umcproducts.com>