LeTourneau Ellis Williams Company, Inc.

PARTS CATALOGUE FOR
WH-1300 TRIPLEX PUMP

The Balance of Power℠

READ THIS MANUAL COMPLETELY BEFORE ORDERING SPARE PARTS FOR THIS PUMP

CAUTION: PUMPS ARE SHIPPED DRY. FILL WITH PROPER LUBRICANT BEFORE OPERATING. SEE MAINTENANCE MANUAL

6500 Britmoore, Houston, Texas 77041~PO Box 41343, Houston, Texas 77241-1343
1.888.MUD-PUMP (683.7867)~Fax: 713.856.5341
www.lewco-equip.com~Email: pumps@lewco-equip.com

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LeTourneau Ellis Williams Company, Inc.

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BOLT TORQUE CHART

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INTRODUCTION

This manual has been prepared with the intention of supplying the user with a valuable service tool. Before placing the mud pump in service, study this manual thoroughly. Your familiarity with the contents will prove a great aid in performing any service work on the pump correctly the first time and as quickly as possible.

A general check of all equipment shipped should be made immediately upon delivery by qualified personnel. Pay particular attention to those parts which were unprotected in shipment and susceptible to damage. Take into consideration any unsatisfactory conditions that are not immediately apparent from surface inspections and immediately correct any damage prior to installing the equipment. Small, separately packed items, should be inspected for damage and missing parts. Safely repack these items, after inspecting them, until proper installations procedures are taken.

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SERIAL NUMBER AND ORDERING INFORMATION

MODEL: WH-1300 SERIAL NO:

When ordering parts for a machine, be sure to furnish both the model number and serial number. Give the quantity of parts required, part number, assembly number and name where parts are found.

Furnish complete shipping instructions as to destination and carriers.

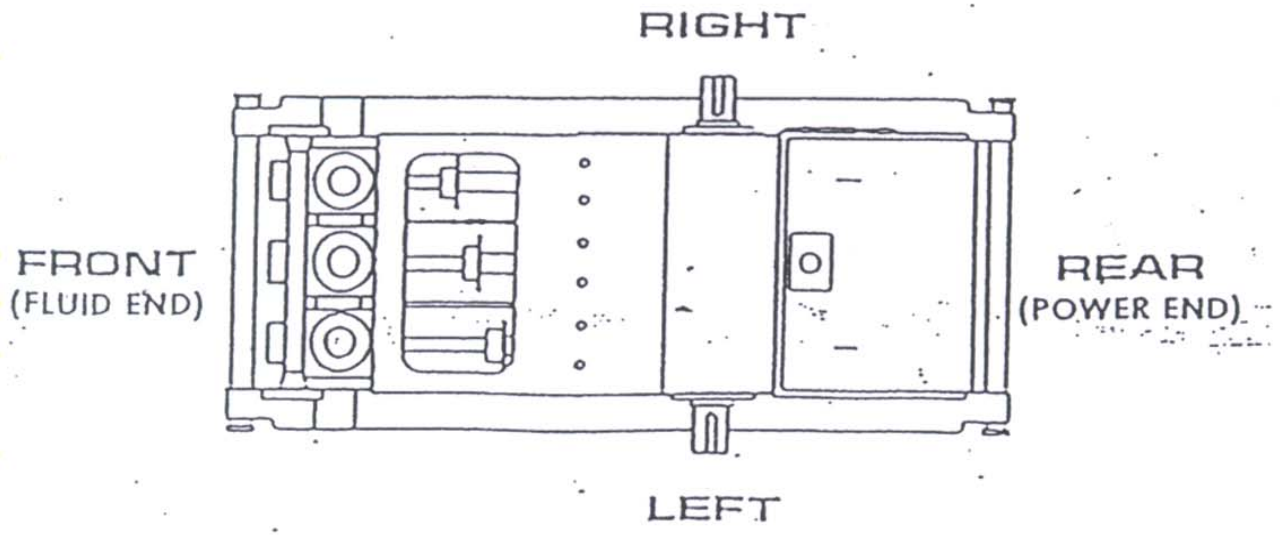
We strive to give the best possible service to you, our customer. Should you encounter some difficulty, a clear statement of facts will enable us to analyze the problem and make a helpful recommendation about parts and servicing.

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For the sake of clarification of terminology in service work or parts ordering, use the diagram provided below to differentiate between RIGHT, LEFT, FRONT, and REAR of the pump.



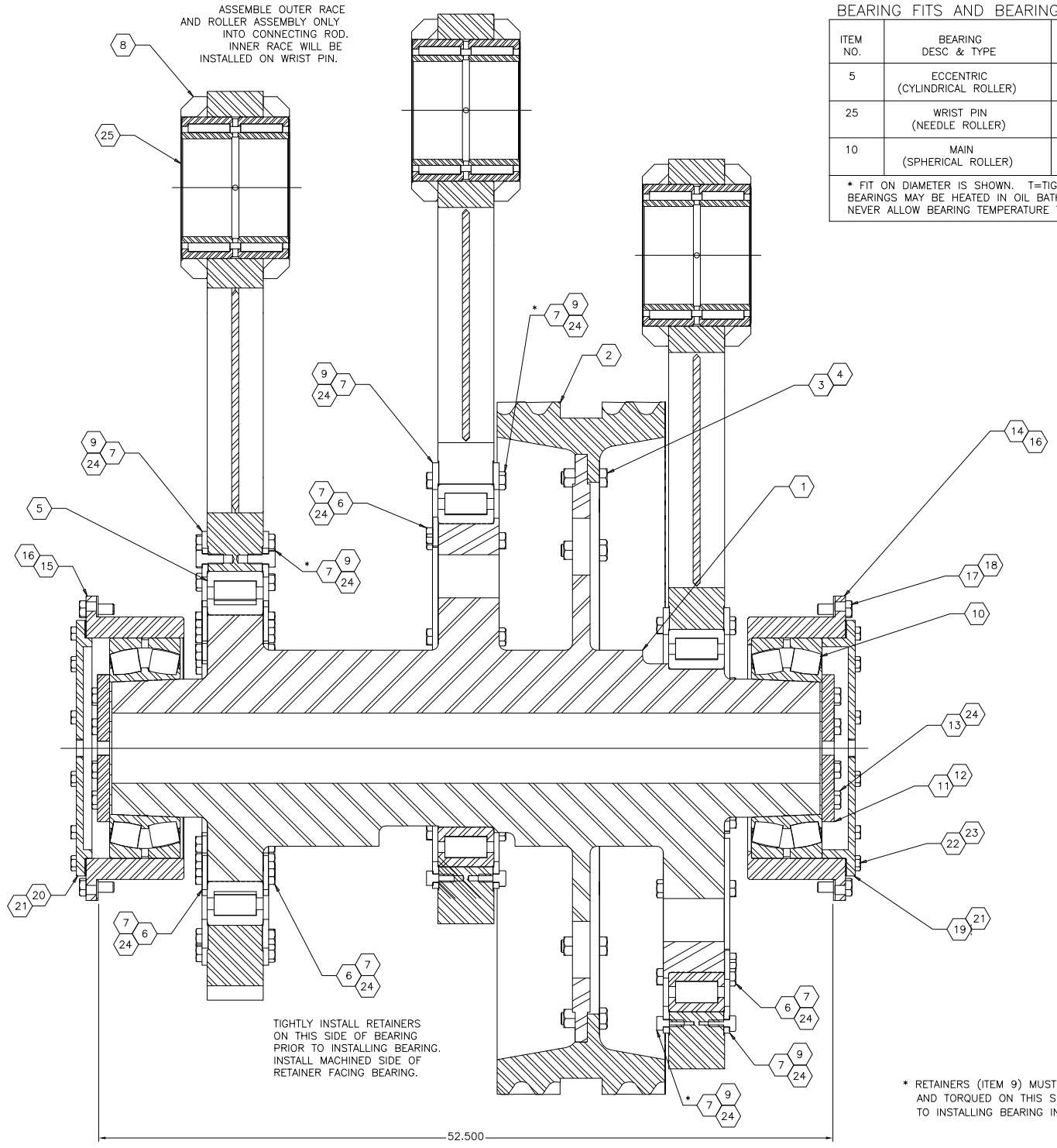
Parts list for :

D150200

6500 Brittmoore Rd. * Houston, Texas 77041-5109
Phone (281) 931-8550 * Fax (713) 855-5320
Email: pumps@elliswilliams.com

GROUP-CRANKSHAFT, WH1300

SEQ	PART	QUANTITY	DESCRIPTION
1	D150201	1.00	CRANKSHAFT-MACHINED, WH1300
2	D150223	1.00	GEAR-MAIN, WH-1300 DBL HLX
3	002-1662	12.00	BOLT HX .875 9NC 2.75 G8
4	A150227	12.00	NUT LOCK NYL HX .875 NC G8
5	A150206	3.00	BEARING-CYLINDERICAL ROLLER
6	A162224	16.00	RETAINER-INNER ECC BEARING
7	EB403	104.00	BOLT HX .750 10NC 1.50 G8 DH
8	C150202	3.00	ROD-CONNECTING, WH1300
9	B150215	12.00	RETAINER-OUTER ECC BEARING
10	EB176	2.00	BEARING-SPHERICAL ROLLER
11	A150214	2.00	SHIM SET-MAIN BEARING
12	B150209	2.00	RETAINER-MAIN BEARING INNER
13	EB404	16.00	BOLT HX .750 10NC 2.25 G8 DH
14	C150204	1.00	CARRIER-MAIN BEARING, LH
15	C150205	1.00	CARRIER-MAIN BEARING, RH
16	B150225	2.00	GASKET-MAIN BEARING CARRIER
17	002-1644	32.00	BOLT HX .750 10NC 2.00 G8
18	EW108	32.00	WASHER-STATO SEAL, .750"
19	B150212	1.00	RETAINER-MAIN BEARING OUTER,RH
20	B150213	1.00	COVER-MAIN BEARING, LH
21	B150226	2.00	GASKET-MAIN BEARING COVER
22	002-5762	24.00	BOLT HX .625 11NC 1.50 G8
23	002-1541	24.00	WASHER-LOCK, 0.625"
24	EW109	0.00	SAFETY WIRE .047 SS



* RETAINERS (ITEM 9) MUST BE INSTALLED AND TORQUED ON THIS SIDE OF ROD PRIOR TO INSTALLING BEARING IN ROD

BEARING FITS AND BEARING ASSEMBLY TEMPERATURE DIFFERENTIALS

ITEM NO.	BEARING DESC & TYPE	RACE	MATING PART	FIT*	NOMINAL FIT DIAMETER	MINIMUM ΔT REQD FOR SLIP FIT ASSY	REQUIRED RADIAL BRG CLEARANCE AFTER INSTALLATION
5	ECCENTRIC (CYLINDRICAL ROLLER)	INNER OUTER	SHAFT ECCENTRIC CONNECTING ROD	.0050T–.0069T .0000T–.0050T	22.500 28.000	50^F 30^F	.0015 .008
25	WRIST PIN (NEEDLE ROLLER)	INNER OUTER	WRIST PIN CONNECTING ROD	.0010T–.0030T .0000T–.0020T	7.000 10.125	70^F 35^F	.001 .005
10	MAIN (SPHERICAL ROLLER)	INNER OUTER	CRANKSHAFT BEARING CARRIER	N/A .0000L–.0030L	N/A 15.750	N/A 0^F	.0035 .006

* FIT ON DIAMETER IS SHOWN. T=TIGHT, L=LOOSE
BEARINGS MAY BE HEATED IN OIL BATH, OVEN, OR WITH INDUCTION HEATER, BUT NOT WITH TORCH.
NEVER ALLOW BEARING TEMPERATURE TO EXCEED 250^F.

MAIN BEARING INSTALLATION PROCEDURE:
1. PLACE MAIN BEARING ON SHAFT WITH HAND–TIGHT FIT (NO LOOSENESS AND NO PRESS)
2. MEASURE DISTANCE FROM END OF SHAFT TO FACE OF BEARING.
3. SUBTRACT .075 FROM MEASUREMENT FOR SHIMPACK THICKNESS.
4. INSTALL SHIMPACK (ITEM 11) TO THICKNESS DETERMINED ABOVE ±.005.
5. PRESS BEARING ONTO SHAFT UNTIL END OF BEARING IS FLUSH WITH SHIM PACK. FINAL DIAMETRAL CLEARANCE OF BEARING MUST BE .0035 TO .0060.

ITEM	PART NO.	QTY	DESCRIPTION
25	B162101	REF	BRG WRIST PIN
24	EW109	15 FT	WIRE, SAFETY .047
23	002–1541	24	WASHER LOCK .625
22	002–5762	24	BOLT HX .625 1.500 NC G8
21	B150226	2	GASKET COVER BRG MAIN
20	B150213	1	COVER BRG MAIN LH
19	B150212	1	RETAINER OUTER BRG MAIN RH
18	EW108	32	WASHER SEAL .750
17	002–1644	32	BOLT HX .750 2.00 NC G8
16	B150225	2	GASKET CARRIER BRG MAIN
15	C150205	1	CARRIER BRG MAIN RH
14	C150204	1	CARRIER BRG MAIN LH
13	EB404	16	BOLT HX .750 2.250 NC G8 DH
12	B150209	2	RETAINER INNER BRG MAIN
11	A150214	2	SHIM SET BRG MAIN
10	EB176	2	BRG MAIN
9	B150215	12	RETAINER OUTER BRG ECCENTRIC
8	C150202	3	CONNECTING ROD
7	EB403	104	BOLT HX .750 1.500 NC G8 DH
6	A162224	16	RETAINER INNER BRG ECCENTRIC
5	A150206	3	BRG ECCENTRIC
4	A150227	12	NUT LOCK NYL INS .875 NC
3	002–1662	12	BOLT HX .875 2.750 NC G8
2	D150223	1	GEAR
1	D150201	1	CRANKSHAFT

REVISIONS	ZONE	REV	DESCRIPTION	ECN	DATE	CHG	CHK	APP
		A	RELEASE	RL01–0666	04–02	RJB	RJB	DFO
		B	ITEM 7 WAS 400–9523 QTY99; ITEM 13 WAS 400–9525;					
		B	ITEM 24 WAS 410–1471	RL01–1770	09–07	DFO	DO	DO

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UNLESS OTHERWISE SPECIFIED:
- DIMENSIONS ARE IN INCHES & APPLY BEFORE PLATING OR FINISH COATINGS.
- TOLERANCES ON: ANGLES ±1°, FRACTIONS ±1/16, XX DECIMAL ±.03, XXX DECIMAL ±.015
- MACHINED CORNERS 1/64 X 45°
- WELD PROPERTIES SHALL MEET THE MINIMUM REQUIREMENTS OF THE BASE MATERIAL.

THIRD ANGLE PROJECTION

USED ON: WH–1600/1300

		DATE
DWN	RJB	03–15–01
CHK	RJB	04–03–01
ENGR	DFO	04–03–01
MATL		

CRANKSHAFT ASSY

SIZE D | DO NOT SCALE | DWG NO. D150200 | REV B

SCALE 1/4 | EST WT 7460 | SHEET 1 OF 1

Parts list for :

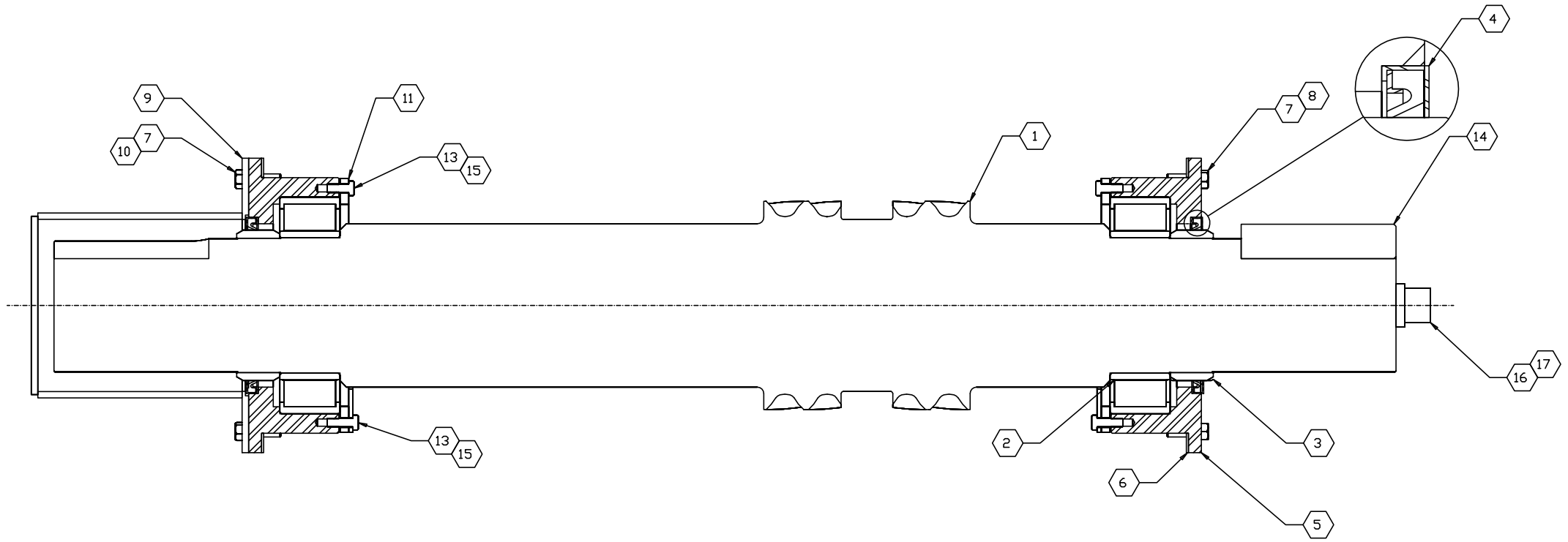
D150210

6500 Brittmoore Rd. * Houston, Texas 77041-5109
Phone (281) 931-8550 * Fax (713) 855-5320
Email: pumps@elliswilliams.com

GROUP-PINION, WH-1300

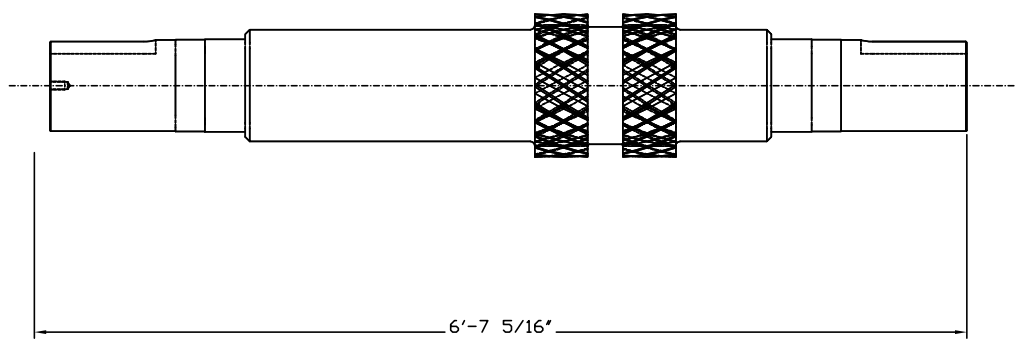
SEQ	PART	QUANTITY	DESCRIPTION
1	D150224	1.00	SHAFT-PINION, WH-1300 DBL HLX
2	EB113	2.00	BEARING-CYLINDERICAL ROLLER
3	A162144	2.00	SPACER
4	EO112	2.00	SEAL-OIL
5	C150207	2.00	CARRIER-PINION BEARING
6	A150231	2.00	GASKET-PINION BEARING CARRIER
7	002-1541	16.00	WASHER-LOCK, 0.625"
8	002-1630	8.00	BOLT HX .625 11NC 2.00 G8
9	B150233	1.00	COVER-PINION SHAFT EXTENSION
10	002-1631	8.00	BOLT HX .625 11NC 2.25 G8
11	C150146	2.00	RETAINER-PINION BEARING
13	400-9753	12.00	BOLT HX .500 13NC 1.50 G8
14	A150232	1.00	KEY 1.250 2.000 9.00
15	410-1471	5.00	R/B EW109 SAFETY WIRE
16	A167314	1.00	PLATE-PINION TURNING
17	400-9523	2.00	BOLT HX .750 10NC 1.50 G8

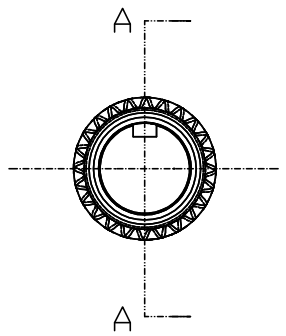
ITEM	QTY	PART NO.	DESCRIPTION



SECTION A-A

SCALE 2X





BOM QTYS SHOWN ARE FOR SHAFT ASSY
USING OPTIONAL ITEM 9

NOTE:
1. ITEMS 16 & 17 BECOME QTY 2 & 4 RESPECTIVELY AND ITEM 8 BECOMES QTY 16 IF ITEM 9 IS NOT USED
2. ITEM 10 NOT USED IF ITEM 9 IS NOT USED

ITEM	PART NO.	QTY	DESCRIPTION
17	400-9523	2	BOLT HX .750 1.500 NC G8
16	A167314	1	PLATE TURNING PINION
15	410-1471	5 FT	WIRE SAFTEY
14	A150232	1	KEY PINION SHAFT
13	400-9753	12	BOLT HX .500 1.500 NC G8 DH
12	-	-	-
11	C150146	2	BRG RETAINER STR
10	002-1631	8	BOLT HX .625 2.250 NC G8
9	B150233	1	COVER PINION SHAFT EXTENSION
8	002-1630	8	BOLT HX .625 2.000 NC G8
7	002-1541	16	WASHER LOCK .625
6	A150231	2	GASKET CARRIER BRG PINION
5	C150207	2	CARRIER BRG PINION
4	E0112	2	SEAL OIL PINION
3	A162144	2	RACE SEAL OIL PINION
2	EB113	2	BRG PINON
1	D150224	1	SHAFT PINION

REVISIONS

ZONE	REV	DESCRIPTION	ECN	DATE	CHG	CHK	APP
	A	RELEASE	RL01-0658	03-16	RJB	RJB	DFO
	B	ITEM 4 QTY WAS 4; ITEM 11 WAS B150208;					
	B	DELETE ITEM 12	NL01-1809	-	RJB	DFO	DFO

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- TOLERANCES ON: ANGLES ±1°, FRACTIONS ±1/16, .XX DECIMAL ±.03, .XXX DECIMAL ±.015
- MACHINED CORNERS 1/64 X 45°
- WELD PROPERTIES SHALL MEET THE MINIMUM REQUIREMENTS OF THE BASE MATERIAL.

THIRD ANGLE PROJECTION

USED ON: WH-1600/1300

		DATE
DWN	RJB	03/17/01
CHK	RJB	03/29/01
ENGR	DFO	03/29/01
MATL		

PINION SHAFT ASSY

SIZE D | DO NOT SCALE | DWG NO. D150210 | REV B

SCALE 1/8 | EST WT 1884 LBS | SHEET 1 OF 1

Parts list for :

D150300

6500 Brittmoore Rd. * Houston, Texas 77041-5109
Phone (281) 931-8550 * Fax (713) 855-5320
Email: pumps@elliswilliams.com

GROUP-CROSSHEAD, WH1300

SEQ	PART	QUANTITY	DESCRIPTION
1	008-6881	3.00	PLUG-PIPE, 1" SOCKET HD
2	D150319	6.00	GUIDE-XHEAD, PRESSURIZED W1300
3	A160233	34.00	NUT-PLATE, XHEAD GUIDE
4	A150302	2.00	NUT-PLATE, XHEAD GUIDE
5	400-1909	36.00	CSCR 12PT .750 10NC 2.00 G8
6	D150318	3.00	XHEAD, WH-1300 PRESSURIZED
7	B162101	3.00	BEARING-WRIST PIN, WH1300
8	B150304	2.00	PIN-WRIST, WH-1300
9	D150320	1.00	PIN-WRIST, CENTER WH1300
10	B150307	3.00	RETAINER-WRIST PIN
11	A150135	12.00	BOLT HX .875 9NC 2.00 G8 DH
12	415-6799	6.00	BOLT HX .750 10NC 2.00 G8 DH
13	B150301	3.00	ROD-PONY, WH1300/1312
14	A150134	18.00	CSCR 12PT .875 9NC 2.25 G8 DH
15	A162203	3.00	DISC-BAFFLE
16	B162180	3.00	CLAMP-PISTON ROD, W-1300/1600
20	A150021	3.00	GASKET-DIAPHRAM PLATE
21	EW109	0.00	SAFETY WIRE .047 SS
23	ES200	3.00	SEAL-STUFFING BOX, WH1600
24	B150308	3.00	BOX-STUFFING
25	A150321	3.00	GASKET-STUFFING BOX
26	400-9753	18.00	BOLT HX .500 13NC 1.50 G8
27	EW106	54.00	WASHER-STATO SEAL, .500"
28	A150317	3.00	RETAINER-PONY ROD SEAL, WH1600
29	081-0970	18.00	BOLT HX .375 16NC .75 G8
30	075-3123	18.00	WASHER-LOCK, 0.375"
31	018-4186	3.00	FITTING-GREASE, .125 NPT 45°
32	EG131	3.00	RELIEF-GREASE, 1/8" NPT

TEST

Parts list for :

D150300

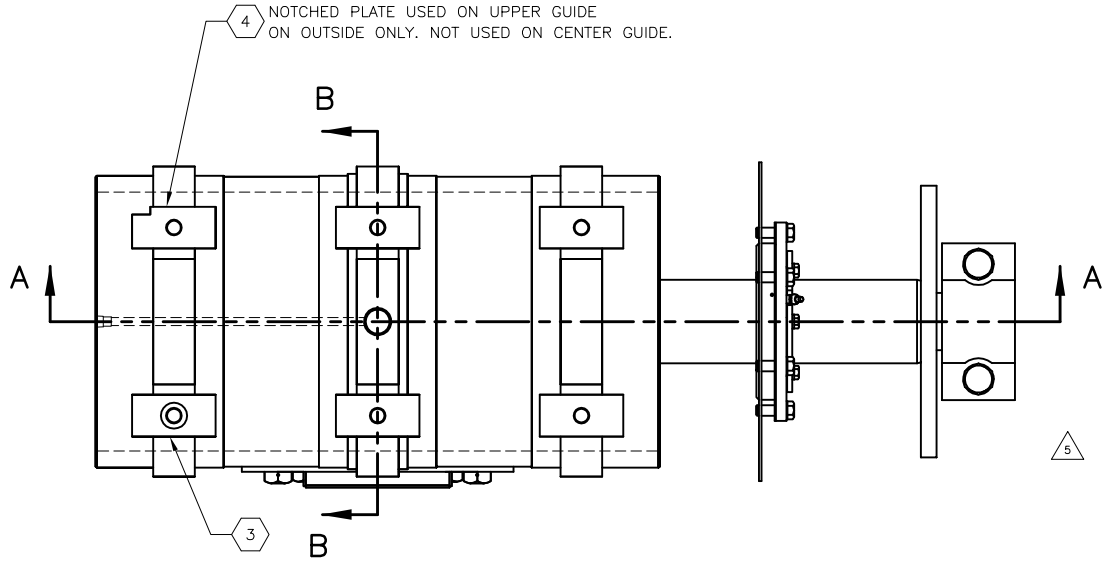
6500 Brittmoore Rd. * Houston, Texas 77041-5109
Phone (281) 931-8550 * Fax (713) 855-5320
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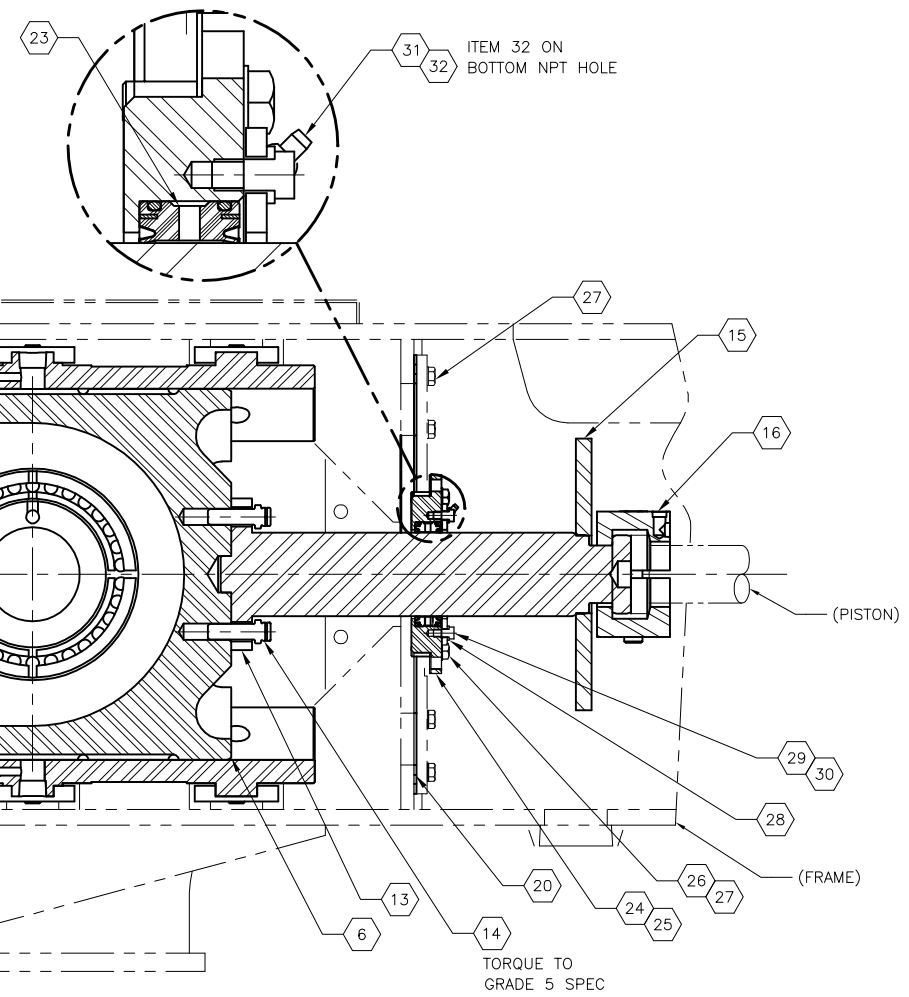
GROUP-CROSSHEAD, WH1300

SEQ	PART	QUANTITY	DESCRIPTION
33	ES167	6.00	SHIM SET-WRIST PIN, WH1600

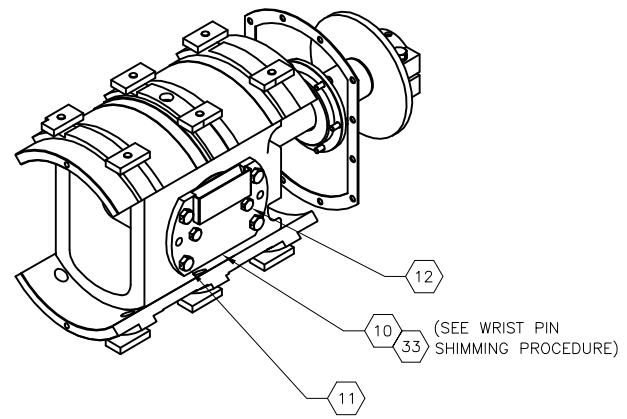
TEST

DWG NO. D150300





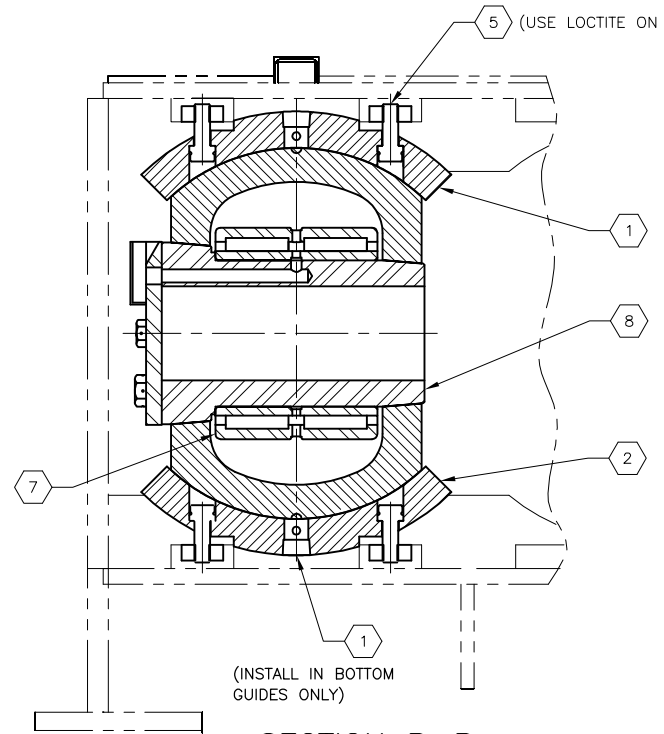
SECTION A–A



ITEM	QTY	PART NO.	DESCRIPTION
1	3	008–6881	PIPE PLUG 1
2	6	D150319	CROSSHEAD GUIDE
3	34	A160233	NUT PLATE CROSSHEAD
4	2	A150302	NUT PLATE CROSSHEAD NOTHCHED
5	36	400–1909	CSCR 12 PT .750 2.000 NC G8
6	3	D150318	CROSSHEAD
7	3	B162101	WRIST PIN BRG
** 8	2	B150304	WRIST PIN
** 9	1	D150320	WRIST PIN CENTER
10	3	B150307	WRIST PIN RETAINER
11	12	A150135	BOLT HX .875 2.000 NC G8 DH
12	6	415–6799	BOLT HX .750 2.000 NC G8 DH
13	3	B150301	PONY ROD
14	18	A150134	CSCR 12PT .875 2.250 NC G8 DH
15	3	A162203	BAFFLE
16	3	B162180	CLAMP PISTON ROD
17			
18			
19			
20	3	A150021	GASKET DIAPHRAM PLATE
* 21	A/R	EW109	SAFETY WIRE
22			
23	3	ES200	SEAL – STUFFING BOX
24	3	B150308	STUFFING BOX
25	3	A150321	STUFFING BOX GASKET
26	18	400–9753	BOLT HEX .500 1.500 NC G8
27	54	EW106	.500 SEAL WASHER
28	3	A150317	RETAINER PACKING SEAL
29	18	081–0970	BOLT HEX .375 .750 NC G8
30	18	075–3123	.375 LOCK WASHER
31	3	018–4186	GREASE FITTING
32	3	EG131	VALVE GREASE RELIEF 15 PSI
33	6	ES167	SHIM SET WRIST PIN
34			

5 **B.O.M. QUANTITIES REFLECT (3) CROSSHEAD ASSEMBLIES**

* ITEM NOT SHOWN
** USE ITEM 9 ON CENTER CROSSHEAD
AND ITEM 8 ON TWO OUTSIDE CROSSHEADS.



SECTION B–B
ROTATE 90° CW

WRIST PIN SHIMMING PROCEDURE

1. INSERT WRIST PIN (ITEM 8 OR 9) INTO TAPERED BORE OF CROSSHEAD (ITEM 6)
2. INSTALL WRIST PIN RETAINER PLATE (ITEM 10) ONTO WRIST PIN USING BOLTS (ITEM 12). TORQUE BOLTS TO GRADE 8 SPEC (TORQUE ONLY THE BOLTS THAT THREAD INTO THE WRIST PIN).
3. INSTALL BOLTS (ITEM 11) THROUGH RETAINER PLATE INTO CROSSHEAD. TORQUE THE BOLTS TO 50 FT–LBS. BUMP THE WRIST PIN WITH A BRASS BAR TO SEAL IT AGAINST THE TAPER AND RE–TORQUE TO 50 FT–LBS.
4. WITH A FEELER GAUGE, MEASURE CLEARANCE BETWEEN WRIST PIN RETAINER PLATE AND FACE OF CROSSHEAD. THE CLEARANCE SHOULD BE APPROXIMATELY .125 INCH.
5. ASSEMBLE SHIMS FROM SHIMPACK (ITEM 33) TO THE THICKNESS MEASURED IN STEP 4, +.005/–.000. INSTALL SHIMS BETWEEN RETAINER PLATE AND CROSSHEAD.
6. TORQUE BOLTS HOLDING RETAINER PLATE TO CROSSHEAD TO GRADE 5 SPEC.
7. SAFETY WIRE ALL BOLTS.

REVISIONS	ZONE	REV	DESCRIPTION	ECN	DATE	CHG	CHK	APP
		05	SEE ECN	4–0038	1/16/04	WMA	JBP	JLS

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HOUSTON, TEXAS

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UNLESS OTHERWISE SPECIFIED:
- DIMENSIONS ARE IN INCHES & APPLY BEFORE PLATING OR FINISH COATINGS.
- TOLERANCES ON: ANGLES ±1°
  FRACTIONS ±1/16
  .XX DECIMAL ±.03
  .XXX DECIMAL ±.015
- MACHINED CORNERS 1/64 X 45°
- WELD PROPERTIES SHALL MEET THE MINIMUM REQUIREMENTS OF THE BASE MATERIAL.
- ALL MACHINED SURFACES TO HAVE A FINISH OF 125 UNLESS OTHERWISE NOTED

USED ON

		DATE
DWN	RJB	2/26/01
CHK	RJB	3/10/01
ENGR	DFO	3/12/01
MATL	SEE BOM	

THIRD ANGLE PROJECTION

CROSSHEAD ASSEMBLY

WH–1300/1600

SIZE D | DO NOT SCALE | DWG NO. D150300 | REV 05
SCALE NTS | EST WT 1000 LBS | SHEET 1 OF 1

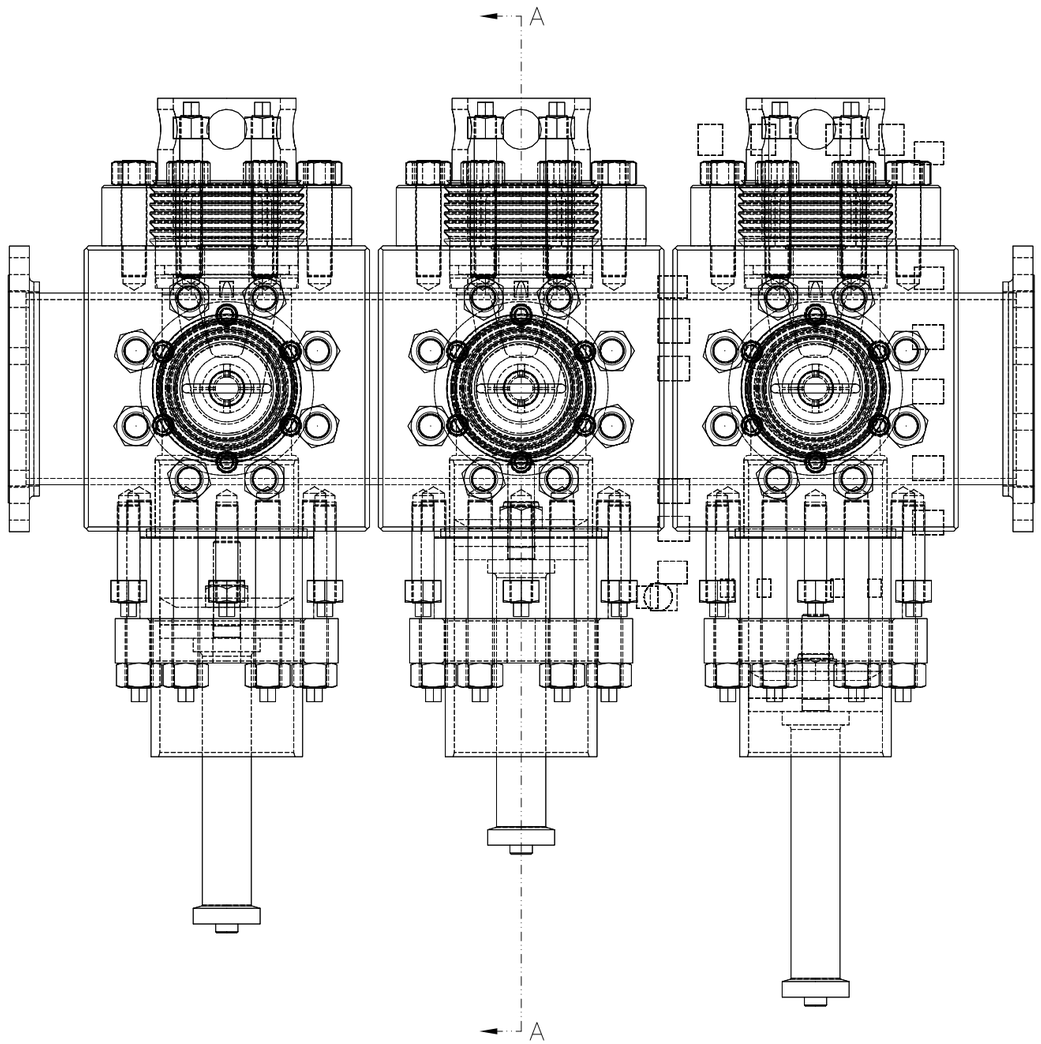
Parts list for :

D150100

6500 Brittmoore Rd. * Houston, Texas 77041-5109
Phone (281) 931-8550 * Fax (713) 855-5320
Email: pumps@elliswilliams.com

GROUP-FLUID END, WH1300 TALL

SEQ	PART	QUANTITY	DESCRIPTION
1	D150143	3.00	MODULE-FLUID, STRAIGHT PORT
2	ES400	18.00	STUD 1.250 8UN 5.50 2.00 B7
3	A300333	30.00	NUT HX HVY 1.250 8 UN 2B
4	A162121	3.00	SEAL-LINER
6	C171402	3.00	FLANGE-LINER LOCK
7	ES402	24.00	STUD 1.375 8UN 10.50 2.00 B7
8	EN108	72.00	NUT HX HVY 1.375 8 UN A194-2H
10	B150118	3.00	ROD-PISTON, WH1300/1600
12	EN101	3.00	NUT LOCK NYL HX 1.500 8UN G8
13	C150508	1.00	MANIFOLD-SUCTION, WH1312
14	EO163	3.00	O-RING .210 6.475 70D BU N
15	400-1908	18.00	CSCR 12PT .750 10NC 1.75 G8
16	A171416	3.00	BUSHING-VALVE GUIDE, LOWER
17	EP400	3.00	PIN-COTTER, .250 X 2.50
18	C150108	3.00	GUIDE-LOWER VALVE, WH1300
19	A162122	3.00	GASKET CYLINDER HEAD
20	B171419	3.00	COVER-VALVE POT, LOWER
21	B171418	3.00	FLANGE CYLINDER HEAD
22	ES401	48.00	STUD 1.375 8UN 6.50 2.00 B7
23	B171420	3.00	LOCK CYLINDER HEAD
24	A160327	3.00	BUSHING-VALVE GUIDE, UPPER
26	B164317	3.00	COVER-VALVE POT
27	A164315	3.00	SEAL-VALVE COVER
28	B150103	3.00	FLANGE-VALVE COVER
29	B150104	3.00	LOCK-VALVE COVER
30	EO114	3.00	O-RING 2-337 BUNA 70
31	C150142	1.00	MANIFOLD-DISCHARGE, WH1300
32	ES403	12.00	STUD 1.250 8UN 9.00 2.00 B7



ITEM	QTY	PART NO.	DESCRIPTION
*	33	EV180	6	ASSY VALVE
	32	ES403	12	STUD 1.250 9.000 UN B7
	31	C150142	1	MANIFOLD DISCHARGE
	30	E0114	3	O RING .210 2.975 70D BU N
	29	B150104	3	LOCK VALVE COVER
	28	B150103	3	FLANGE VALVE COVER
	27	A164315	3	GASKET VALVE COVER
	26	B164317	3	VALVE COVER POT
	25	–	–	–
	24	A160327	3	BUSHING VALVE GUIDE DISCHARGE
	23	B171420	3	LOCK CYLINDER HEAD
	22	ES401	48	STUD 1.375 6.500 UN B7
	21	B171418	3	FLANGE CYLINDER HEAD
	20	B171419	3	CYLINDER HEAD
	19	A162122	3	GASKET CYLINDER HEAD
	18	C150108	3	LOWER VALVE GUIDE
	17	EP400	3	PIN COTTER .125 2.500
	16	A171416	3	BUSHING VALVE GUIDE SUCTION
	15	400–1908	18	CSCR FH .750 1.750 NC G8
	14	E0163	3	O RING .210 6.475 70D BU N
	13	C150508	1	SUCTION MANIFOLD
	12	EN101	3	NUT LOCK NYL INS 1.500 N G8
	11	SEE CHT	3	PISTON RUBBER
	10	B150118	3	PISTON ROD
	9	SEE CHT	3	PISTON
	8	EN108	72	NUT HX 1.375 UN G8 HVY
	7	ES402	24	STUD 1.375 10.500 UN B7
	6	C171402	3	LINER LOCK FLANGE
	5	SEE CHT	3	LINER
	4	A162121	3	GASKET LINER
	3	A300333	30	NUT HX 1.250 UN G8 HVY
	2	ES400	18	STUD 1.250 5.500 UN B7
	1	D150143	3	MACHINED FLUID END
ITEM	PART NO.	QTY	DESCRIPTION

* NOT SHOWN
VALVE ASSY (ITEM 33)
CONSISTS OF:

VALVE	EV178
SEAT	EV179
SPRING	EV116
INSERT	EV142

LINER SIZE	LINER P/N	PISTON P/N*	PISTON RUBBER P/N
4	EL121	EP130	EP163
4?	EL122	EP158	EP164
5	EL123	EP159	EP165
5?	EL124	EP160	EP114
6	EL125	EP117	EP115
6?	EL126	EP118	EP116
7	EL127	EP150	EP147
7?	EL189	EP151	EP148

* PISTON INCLUDES RUBBER

REVISIONS	ZONE	REV	DESCRIPTION	ECN	DATE	CHG	CHK	APP
		A	RELEASE	RL01–0663	03–28	RJB	RJB	DFO
		B	EL189 WAS A150115 IN CHART FOR 7 1/2 LINER;					
		B	DEL ITEM 25; ITEM 26 WAS A1501339	NL01–1013	05–07	RJB	RJB	DFO
	A8	C	ITEM 12 WAS A171427; ITEM 33 WAS EV123	NL01–1798	–	RJB	DFO	DS

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HOUSTON, TEXAS

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- DIMENSIONS ARE IN INCHES & APPLY BEFORE PLATING OR FINISH COATINGS.
- TOLERANCES ON: ANGLES ±1°, FRACTIONS ±1/16, .XX DECIMAL ±.03, .XXX DECIMAL ±.015
- MACHINED CORNERS 1/64 X 45°
- WELD PROPERTIES SHALL MEET THE MINIMUM REQUIREMENTS OF THE BASE MATERIAL

THIRD ANGLE PROJECTION

USED ON: WH–1600/1300

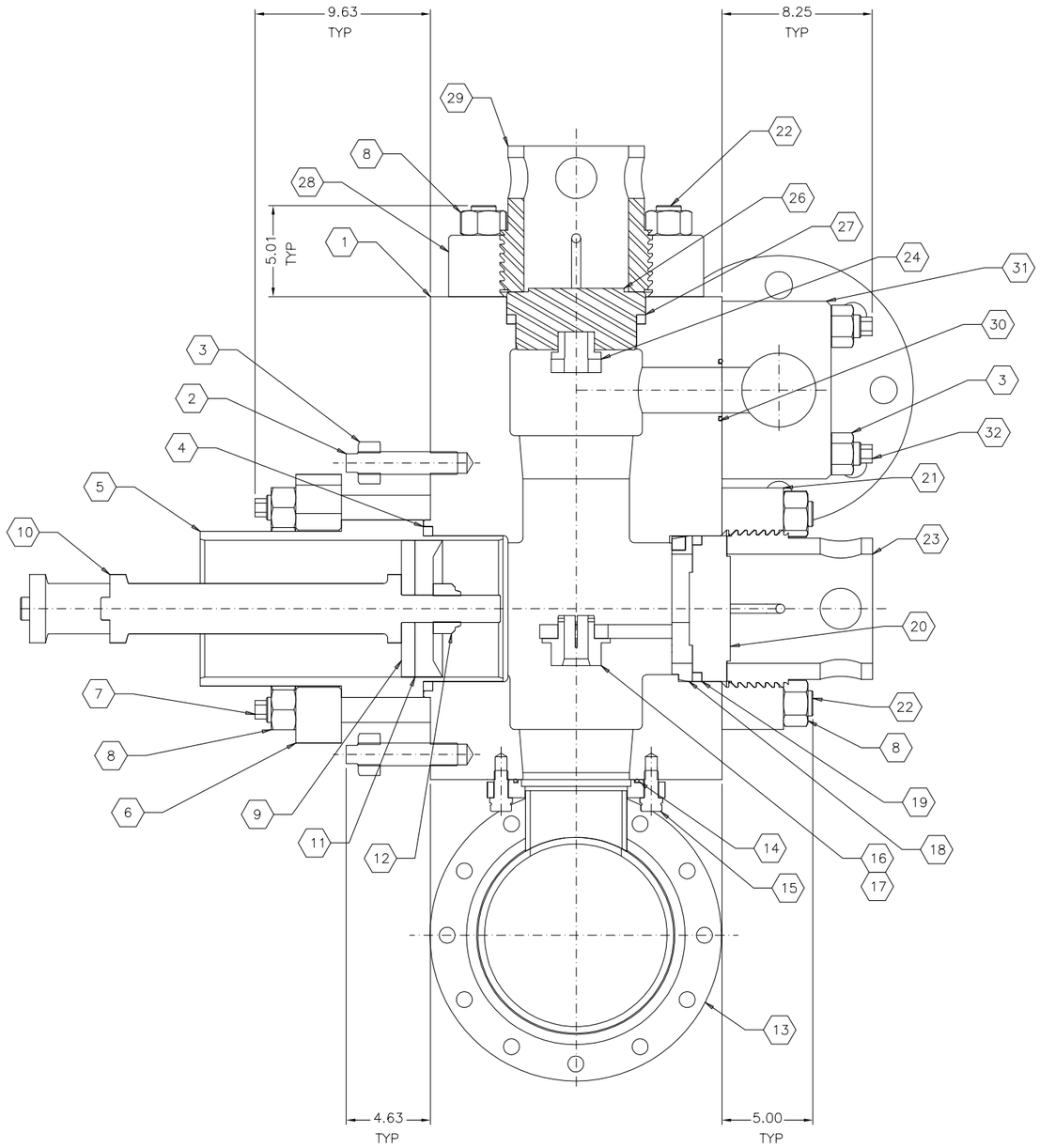
		DATE
DWN	RJB	03/28/01
CHK	RJB	03/28/01
ENGR	DFO	03/29/01
MATL		

FLUID END STRAIGHT PORT

SIZE D | DO NOT SCALE | DWG NO. D150100 | REV C

SCALE 1/8 | EST WT 7530 | SHEET 1 OF 2

ITEM	QTY	PART NO.	DESCRIPTION



SECTION A–A

REVISIONS	ZONE	REV	DESCRIPTION	ECN	DATE	CHG	CHK	APP
		A	RELEASE	RL01–0663	03–28	RJB	RJB	DFO
		B	CHANGE DIMS TO ITEM 22 TO NEW DESIGN	NL01–1798	05–07	RJB	RJB	DFO
		C	SEE SHEET SHEET 1	NL01–1798	–	RJB	DFO	DS

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  FRACTIONS ±1/16
  .XX DECIMAL ±.03
  .XXX DECIMAL ±.015
- MACHINED CORNERS 1/64 X 45°
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THIRD ANGLE PROJECTION

USED ON
WH–1600/1300

		DATE
DWN	RJB	03/26/01
CHK	RJB	03/28/01
ENGR	DFO	03/29/01
MATL		

FLUID END STRAIGHT PORT

SIZE	DO NOT SCALE	DWG NO.	REV
D		D150100	C

SCALE	1/8	EST WT	7530	SHEET	2 OF 2

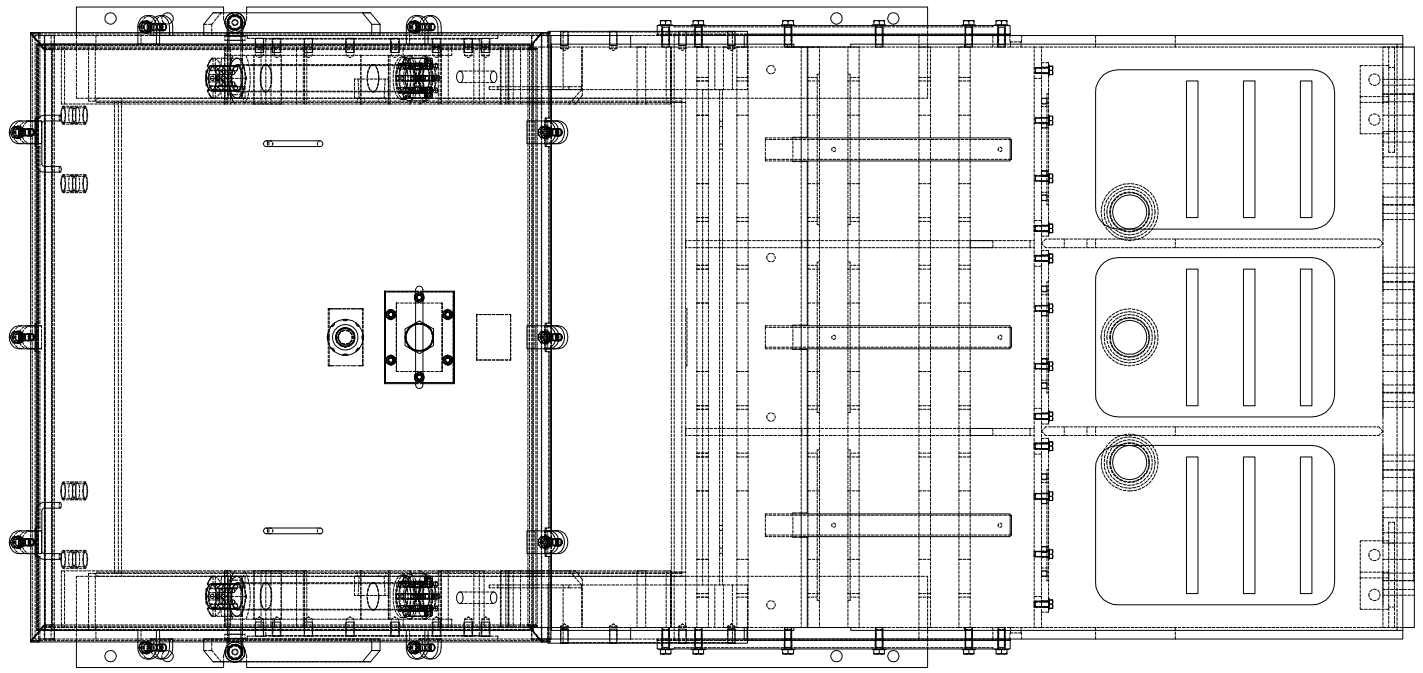
Parts list for :

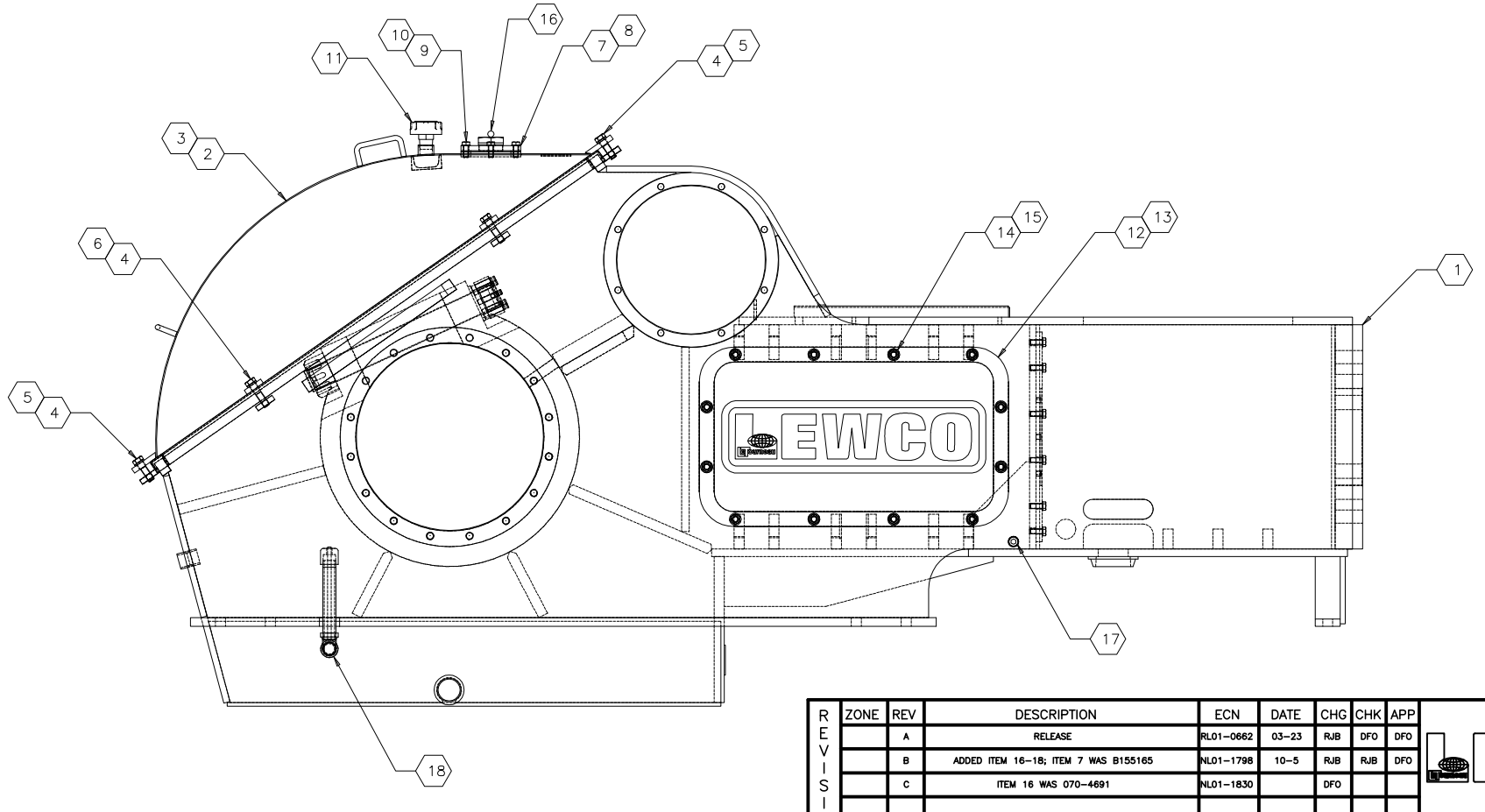
D150400

6500 Brittmoore Rd. * Houston, Texas 77041-5109
Phone (281) 931-8550 * Fax (713) 855-5320
Email: pumps@elliswilliams.com

GROUP-FRAME, WH1300

SEQ	PART	QUANTITY	DESCRIPTION
1	D150402	1.00	FRAME-MACHINED, WH-1300
2	D150403	1.00	COVER-CRANKCASE, WH1300
3	A150404	1.00	GASKET-CRANKCASE
4	002-1541	10.00	WASHER-LOCK, 0.625"
5	002-1631	6.00	BOLT HX .625 11NC 2.25 G8
6	002-1633	4.00	BOLT HX .625 11NC 2.75 G8
7	B169285	1.00	COVER-INSPECTION
8	B155166	1.00	GASKET-INSPECTION COVER
9	EW106	6.00	WASHER-STATO SEAL, .500"
10	400-9752	6.00	BOLT HX .500 13NC 1.25 G8
11	EB107	1.00	CAP-BREATHER, 10 MICRON
12	B162168	2.00	COVER-XHEAD
13	B162170	2.00	GASKET-XHEAD COVER
14	EW107	24.00	WASHER-STATO SEAL, .625"
15	002-1629	24.00	BOLT HX .625 11NC 1.75 G8
16	A150607	1.00	PLUG-PIPE, 2" T-HANDLE,OIL FIL
17	401-3957	2.00	PLUG-PIPE, 3/4 NPT MAGNETIC
18	B150094	2.00	DIPSTICK ASSY





ITEM	PART NO.	QTY	DESCRIPTION
18	B150094	2	DIPSTICK ASSY
17	401-3957	2	PIPE .750 PLUG MAG
16	A150607	1	PLUG STR 2 NPT
15	002-1629	24	BOLT HX .625 1.750 NC G8
14	EW107	24	WASHER SEAL .625
13	B162170	2	GASKET COVER CROSSHEAD
12	B162168	2	COVER CROSSHEAD
11	EB107	1	BREATHER CRANKCASE
10	400-9752	6	BOLT HX .500 1.250 NC G8 FT
9	EW106	6	WASHER SEAL .500
8	B155166	1	GASKET COVER INSPECTION
7	B169285	1	COVER INSPECTION
6	002-1633	4	BOLT HX .625 2.750 NC G8
5	002-1631	6	BOLT HX .625 2.250 NC G8
4	002-1541	10	WASHER LOCK .625
3	A150404	1	GASKET COVER CRANKCASE
2	D150403	1	WELDMENT COVER CRANKCASE
1	D150402	1	FRAME MACHINED

REVISIONS

ZONE	REV	DESCRIPTION	ECN	DATE	CHG	CHK	APP
	A	RELEASE	NL01-0662	03-23	RJB	DFO	DFO
	B	ADDED ITEM 16-18; ITEM 7 WAS B155165	NL01-1798	10-5	RJB	RJB	DFO
	C	ITEM 16 WAS 070-4691	NL01-1830		DFO		

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  .XX DECIMAL ±.03
  .XXX DECIMAL ±.015
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THIRD ANGLE PROJECTION

USED ON
WH-1600/1300

		DATE
DWN	RJB	03-20-01
CHK	DFO	03-28-01
ENGR	DFO	03-28-01
MATL		

FRAME ASSEMBLY

SIZE	DO NOT SCALE	DWG NO.	REV
D		D150400	C

SCALE	EST WT	SHEET
1/8	6875 LBS	1 OF 1

STEEL FASTENER TORQUE SPECIFICATIONS (LUBED)

FASTENER SIZE fractional (decimal)	THREAD SERIES		SAE GRADE 5 FASTENERS		SAE GRADE 8 FASTENERS		ASTM A193 GRADE B7 FASTENERS	
			USA UNITS (ft-lb)	METRIC UNITS (N-m)	USA UNITS (ft-lb)	METRIC UNITS (N-m)	USA UNITS (ft-lb)	METRIC UNITS (N-m)
1/4	20	UNC	6	9	9	12	7	10
0.250	28	UNF	7	10	10	14	8	11
5/16	18	UNC	13	18	18	25	15	20
0.3125	24	UNF	14	20	20	28	16	22
3/8	16	UNC	23	31	33	44	26	36
.375	24	UNF	26	35	37	50	30	40
7/16	14	UNC	37	50	52	71	42	57
0.4375	20	UNF	41	56	58	79	47	64
1/2	13	UNC	56	76	80	108	64	87
0.500	20	UNF	63	86	90	122	72	98
9/16	12	UNC	81	110	115	156	93	126
0.5625	18	UNF	91	123	128	174	103	140
5/8	11	UNC	112	152	158	215	128	173
0.625	18	UNF	127	172	179	243	145	196
3/4	10	UNC	199	270	281	381	227	308
0.750	16	UNF	222	301	314	425	253	343
7/8	9	UNC	321	435	453	614	366	496
0.875	14	UNF	354	480	500	678	404	547
1	8	UNC	481	652	679	921	549	744
1.000	14	UNF	539	731	762	1034	616	835
1-1/8	7	UNC	600	813	963	1305	778	1054
1.125	8	UN	621	842	997	1352	805	1092
	12	UNF	673	912	1079	1463	872	1182
1-1/4	7	UNC	846	1147	1358	1842	1097	1487
1.250	8	UN	873	1184	1401	1900	1132	1534
	12	UNF	937	1270	1504	2039	1215	1647
1-3/8	6	UNC	1109	1504	1781	2414	1438	1950
1.375	8	UN	1185	1607	1902	2578	1536	2083
	12	UNF	1263	1712	2027	2748	1637	2220
1-1/2	6	UNC	1473	1997	2363	3204	1909	2588
1.500	8	UN	1563	2120	2509	3402	2027	2748
	12	UNF	1657	2246	2659	3605	2148	2912
1-3/4								
1.750	8	UN					3300	4474
2								
2.000	8	UN					5018	6804
BOLT AND CAPSCREW → **MARKINGS ON HEAD**							B7 Studs	

1) ALL TORQUE VALUES GIVEN ARE FOR LUBRICATED FASTENERS.
2) ALL STUDS USED ON LEWCO PUMPS ARE GRADE B7. NUTS ON STUDS SHOULD BE TORQUED TO GRADE B7 SPEC EVEN IF THE NUT ITSELF IS GRADE 8.

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