



Installation and maintenance instructions for N-EUPEX couplings Types A.B.D.E,F.G,H,K,L,M,O and P

V 420 EN 12.83 A 184 1 .

General information N-EUPEX couplings are suitable for clockwise and counter clockwise rota-1.1. tion as well as for reversing operation. Mounting of coupling parts on the shaft ends to be connected is optional. 1.2. A remaining gap between coupling part and shaft collar can be filled by a

sleeve; but this is not essential for proper functioning of the coupling. To ensure that coupling flexibles can be replaced without moving connect-1.4.

ed machines (possible only with types A, D, F and K) dimension P is listed in table 4.1, must be taken into account.

If required, we supply N-EUPEX couplings with finished bores, ready for 1.5. mounting.

Safety precautions Rotating parts should be guarded to prevent accidents, taking account of 2.1. applicable local accident prevention regulations.

Finish boring of couplings supplied with rough bores, machining tapped holes for set screws

The maximum bore diameters D listed in our brochure K 420, must not be 3.1. exceeded.

When finishing rough bores, the surfaces on page 2 marked with heavy 3.2. lines () should be used as reference faces for correct bore concen-

In a drive type fastening with parallel key we recommend the following 3.3. bore tolerances for given shaft limits:

haft tol	erances hg	l ks	· m6	n ₆	recommended bore
0	Di	ameter in m	ım		tolerances
	, , , , , , , , , , , , , , , , , , ,	1	>25		H7
	<u></u>	≤50	1		H7
			1	>100	H7
EE0.		 	- 		K7
<u>≨50</u>		 			M7
> 50			·		N7

For extraordinary operating conditions e. g. reversing under load, a tighter fit and keyway width according to ISO P9 tolerances or taper key stress type fastening should be provided.

Allocation of set screws to bore diameters: 3.5.

0.0.					T
auaz.	10 12 17 22 30 3	88 44 50 58	165 175 85 9	5 110 130	150 170 200 230 170 200 230
Bore dia. over	10 17 100 20 20 20	1 50 50 65	75 95 95 11	n 130 1150	11701200 230
to 10	17 11 55 30 30 4	14 30 30 03	1/2/02/22/24	0 1200 1200	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
		Threaded h	ole for set	screw	
N-EUPEX size			,		
	ا میر				
58, 68, 80	M6 ·		. <u> </u>		
95, 110	M8				
	M10	1			·
125, 140, 160	5144			····	
180, 200		M12			1124
ab 225	M8 M	10 M12	M16	M20	M24
1 60 663	1.10				

ab 225 For sizes 58, 68, 80, 95 and 110 set screw holes must be located opposite 3.6. keyway, this is also required for part 9 of sizes 125 and 140.

Mounting

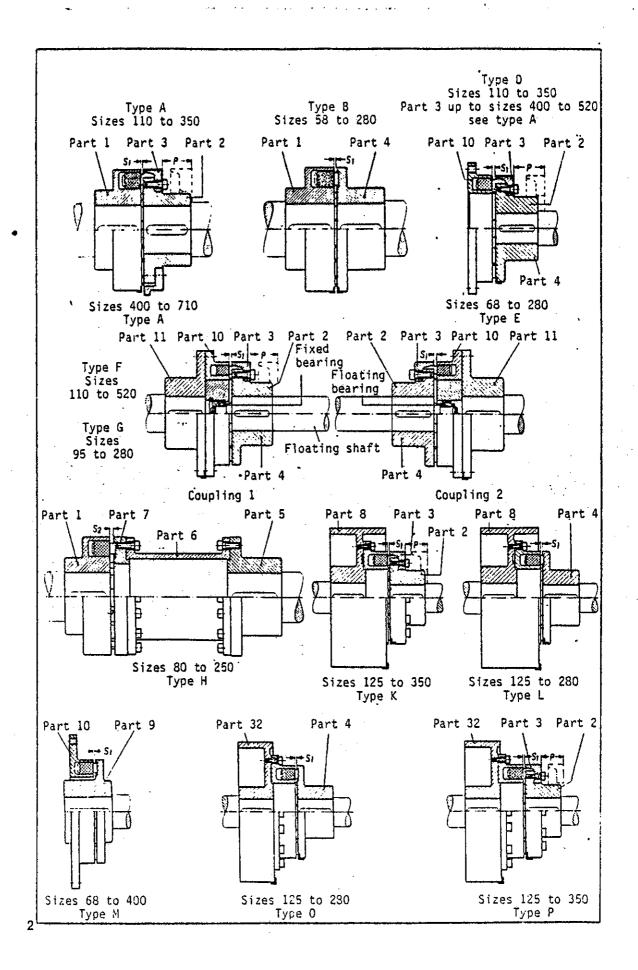
Before mounting the hubs, carefully clean shaft ends and coupling parts. 4.1.

The coupling hubs should preferably be mounted with the aid of special 4.2. tools which are available for this purpose; inside hubs to be flush with the shaft ends. Tighten set screw to secure axially.

Tighten set screws only with hexagon pin spanner according to DIN 911 4.3. without extension piece.

Heating of coupling parts will facilitate mounting, but the flexible ele-4.4. ments must be removed first from coupling part 1.

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Part 6 of type H is marked on one face with an "O". This is the connecting face to part 5. 4.6. Bring the coupling hubs together, taking care to observe dimension S1 or S2 respectively according to table 4.1. 4.7. Check all screw connections with screw tightening torques of table 4.1. Alignment 5.1. N-EUPEX couplings will absorb deviations in edge the relative position of shafts to be connected (see section 6.). 5.2. When aligning the coupling halves, the angular () and parallel offset misalignments of shafts relative to each other should be as small as possible. Alignment to be carried out in two planes as shown in fig. 3.1 with a straight edge (offset misalignment) and spacer bar (angular misalignment). A dial indicator Gap gauge will give greater accuracy. 5.3. The gap dimension S_1 and S_2 respectively must be within the limits listed in tabel 4.1. Possible misalignment 6.1. For types A, B, D, E, F, G, K, L, M, 0, P, the permissible axial movement △Ka (fig. 3.2) is determined with: ⊷ - Smin AKa = Slmax - Slmin Axial movement Axial movement ⊿Ka of type H coupling Fig. 3.2 parts relative to each other, are possible within the permissible limits for dimension S2 listed in table 4.I. 6.2. Angular misalignment ΔK_W (fig. 3.3) is measured as the difference between Smax and Smin. Possible values are listed in table 4.1 referred to a speed of 1500 r.p.m. For differing speeds the permissible angular misalignment is calculated thus: $\Delta K_W = \Delta K_T \cdot S_n$ (for factor S_n see fig. 6.3. See table 4.I for parallel offset misalignment ⊿Kr (fig. 3.5) values referred to a shaft speed of 1500 r.p.m. For different speeds multiply ΔK_r with factor S_n (fig. 3.4). 6.4. Angular and parallel offset misalignment can occur at the same time. The sum of both misalignments should not exceed the values for ΔK_r or ∆K_w respectively. ⇔S_{max} 1,5 ۲ factor Type H 0,5 Misalignment 500 1000 1500 2000 2500 3000 3500 4000 Jular misalignment Fig. 3.5 Speed n (r.p.m.) -Fig. 3.3 Fig. 3.4 Operation 7.1. Before commencing initial operations check alignment and gap dimension S₁ or S₂ respectively and if necessary make corrections, further check screw connections. For screw tightening torques see table 4.1. Maintenance 8.1. N-EUPEX couplings do not require any regular maintenance except for an occasional check on the torsional play or backlash between the driving and the driven halves. When N-EUPEX couplings are used in drives which do not require a minimum of torsional play or backlash in the coupling,

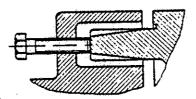
the coupling flexibles can be allowed to wear down to 2/3 of their

original thickness before they need replacing.

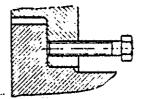
Replacing of flex pies

Uninterrupted tormue transmission and reliability of operation cannot 3.1. be guaranteed unless original N-EUPEX flexibles are used.

9.2. With the exception of types B, E, L, M and O, the flexibles can be replaced without moving connected shafts or machines.
9.2.1. Types A, D, F, K and P: After loosening screw connection 2/3, part 3 can be moved axially and the flexibles are freely accessible. In order to ease separation of the coupling parts, part 1 of coupling sizes 225 - 400 is provided with tapped holes for forcing screws. From size 440 up these tapped holes are located in coupling part 3 (see figs. 4.1 and 4.2).



Size 225 - 400 Fig. 4.1



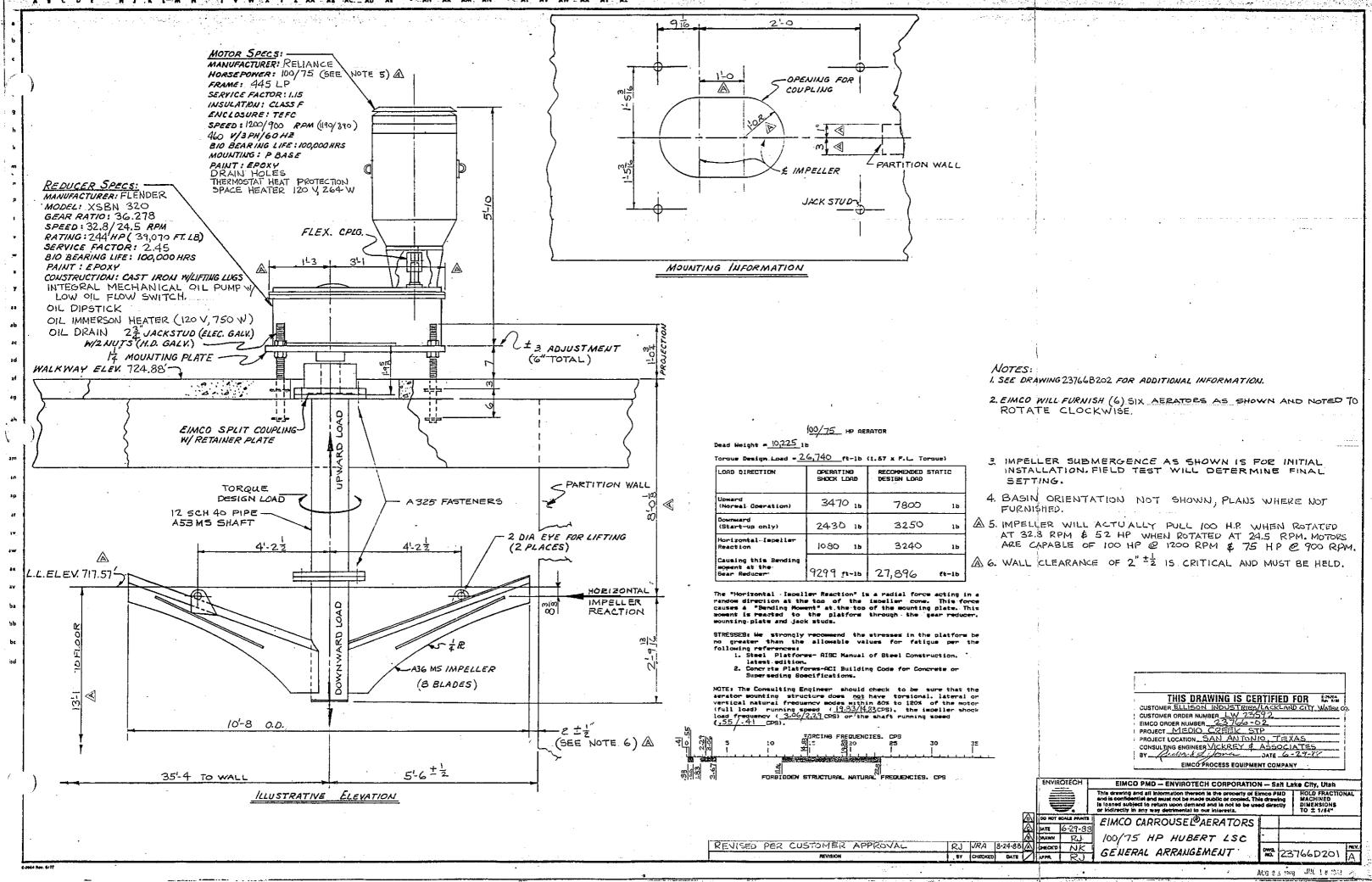
Size 440 - 710 Fig. 4.2

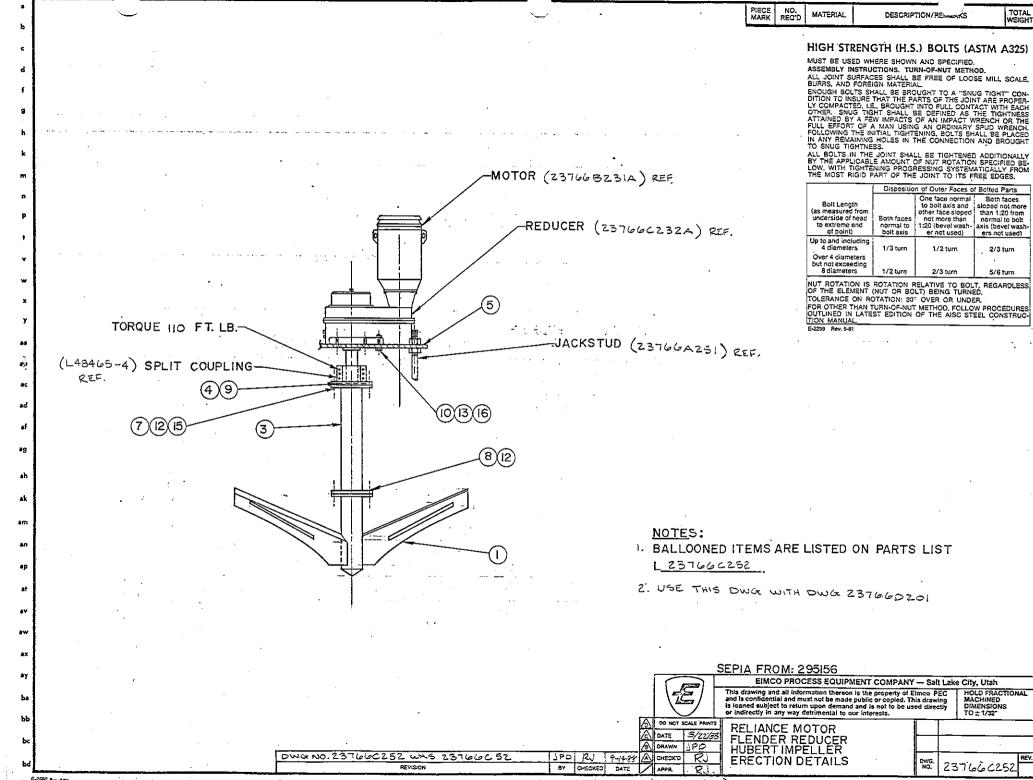
9.2.2. Type G: Loosen flange connection part 10/11 and the floating shaft with mounted coupling parts can be removed radially. Using suitable tools, part 10 can be pulled off from the floating bearing side. On the other side, the fixed bearing side, remove first the retaining ring from the floating shaft and after that, part 10 can be dismounted complete with ball and socket joint.

9.2.3. Type H: Loosen screw connections and force parts 5 and 7 out of their centerings with the help of forcing screws in part 6. Push part 7 as far as possible into part 1. Part 6 can now be removed radially. Bring part 7 back out of part 1; the flexibles are freely accessible now.

After fitting new flexibles, reassembly in reverse order. Before starting up take note of sections 4., 5., 6. and 7.

Table 4.1								
100.0		-1	perm.		screw tightening torqu		Angular misulignment	Offset misalignment
•	, ,	. 1	devi-		width between flats Sw		ΔK _W	⊿Kr
Cou-		• •	ation		socket head cap screws			
pling					Part 2/3 Part 8/10		Smax - Sm	in
size	s ₁	S ₂	. S ₂	P	Part 5/6 Part 10/11	Sw	at n = 15	00 r.p.m.
	. *	•		·	Part 6/7 Part 10/32		!	
1	mm	mm	mm	mm	Nm	mm	mm	mm
58	2 4					,	0.10	0.10
68	2 4	1					0.11	0.11
80	24	5	+1		10		0.13	0.13
95	2.4	5	+1		10	5	0.15	0.15
110	2 4	5	+1	33	14	6	0.18	0.18
125	24	5	+1	38	17.5	6	0.21	0.21
140	2 4	5	+1	43	29	8	0.24	0.24
160	2 4	6	+1	47	35	8	0.27	0.27
180	26	6	+1	50	44	88	0.30	0.30
200	2 6	6	+1	53	67.5	10	0.34	0.34
225	2 6	6	+1	61	89	10	0.38	0.38
250	38	6	+1	69	145	14	0.42	0.42
280	3 8	 -		73	185	14	0.47	0.47
315	3 8	1		78	200	14	0.52	0.52
350	3 8	1	1	83	260	17	0.56	0.56
400	3 8		,	88	340	17	0.65	0.65
440	510	1	1	99	420	17	0.72	0.72
480	510	1		104		19	0.78	0.78
520	510	 		115		19	0.85	0.85
560	612	}		125		19	0.92	0.92
610	612		į	1,35		22	0.99	0.99
660	612	 	1	145		22	1.05	1.05
710	612	1		155	1450	22	2.15	1.15





TOTAL

- 1. ARROW DENOTES VARIANCE FROM CONTRACT DOCUMENTS AND SHOULD BE PARTICULARLY NOTED.
- 2. THE FOLLOWING DEFINES THE RESPONSIBILITY OF THE EIMCO PEC DIVISION OF ENVIROTECH CORPORATION (EIMCO), WITH REGARD TO THE INFORMATION AND DIMENSIONS SHOWN ON THIS DRAWING. (A): DIMENSIONS, LOADS, AND OTHER INFORMATION ARE PROVIDED TO ACCOMMODATE THE EQUIPMENT TO THE STRUCTURE AS SHOWN. (B): THE CUSTOMER IS TO PROVIDE CONCRETE STRUCTURES AND REINFORCING STEEL AND DESIGN TO SUIT LOCAL CONDITIONS AND JOB SPECIFICATIONS. (C): THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OF INSTALLATION PURPOSES UNLESS IT BEARS THE APPROVAL OF THE OWNER. THE ENGINEER OR THEIR AUTHORIZED REPRESENTATIVE.
- 3. EIMCO IS NOT RESPONSIBLE FOR CONCRETE DESIGN ON THIS DRAWING.
- 4. THE EIMCO EQUIPMENT IS DESIGNED FOR THE MAXIMUM ANTICIPATED LOADINGS COVERING CONDITIONS OF START, WIND AT 15 PSF, AND DEAD LOAD.
- EIMCO DOES NOT FURNISH ELECTRICAL WIRING, CONDUIT, OR ELECTRICAL EQUIPMENT; PIPING, VALVES, OR FITTINGS; LUBRICATING OIL OR GREASE; FIELD PAINTING; FIELD WELDING OR ERECTION, (EXCEPT AS SPECIFICALLY NOTED)
- 6. EINCO IS NOT RESPONSIBLE FOR THE SELECTION OF STARTERS AND ELECTRICAL START CIRCUITS. RECOMMENDATION IS TO SELECT STARTER WITH HEATER ELEMENT AS LISTED IN THE FOLLOWING TABLE:

·- MOTO	OR ·	SLOW HEATERS	
SERVICE FACTOR	INSULATION CLASS	SERVICE FACTOR	
· -	-		
-, <u>-</u>			
1.15	F	1.0	

REVISION

REVISED PER CUSTOMER APPROVAL

START PROCEDURE: START ONE UNIT AT A TIME WITH AT LEAST 2 MINUTE INTERVALS BETWEEN START OF EACH SUCCESSIVE UNIT.

- 7. EIMCO IS NOT RESPONSIBLE FOR CONDITIONS THAT CAUSE OVERLOAD TO THE MOTOR AND GEAR REDUCER DUE BUT NOT LIMITED TO WATER LEVEL VARIATION, IMPELLER SUBMERGENCE, POWER SUPPLY VOLTAGE VARIATION, ICING, FLOATING CEBRIS: IMPROPER LUBRICATION AND MAINTENANCE.
- 8. ETHICO IS NOT RESPONSIBLE FOR BASIN EROSION OR ITS EFFECT ON PILES
 COLUMN SUPPORTS OR CABLETANGIORACE WILL HAPD SUPPAGE BOTTOWS ARE
 NOT IT TO PARE A BROSTON PAD WITH A DIAMETER BUTTO THAT OF THE THEFTHER

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9. EIMCO DOES NOT SUPPLY NOR IS RESPONSIBLE FOR A SERVICE FACILITY TO MAINTAIN THE AERATOR(S). IT IS RECOMMENDED THAT THE CUSTOMER/USER PROVIDE A SERVICE FACILITY TO COMPLETELY REMOVE THE ASSEMBLED (OR DISASSEMBLED IF BRIDGE OR PLATFORM MOUNTED) AERATOR FROM THE BASIN FOR SERVICING. FOR HANDLING INSTRUCTIONS REFER TO THE INSTALLATION.

DESCRIPTION/REMARKS

MATERIAL

OPERATION. AND MAINTENANCE INSTRUCTIONS MANUAL.

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10. AS THE AERATCR(S) WILL BE SHIPPED IN COMPONENT PIECES, EIMCO IS NOT RESPONSIBLE FOR ERECTION AND/OR INSTALLATION OF AERATOR COMPONENTS THAT DO NOT COMPLY WITH EIMCO'S DETAILED INSTRUCTIONS AND RECOGNIZED GOOD PRACTICE.

- 11. SHOP PRIMER PAINT IS INTENDED TO SERVE ONLY AS A BONDING COAT BETWEEN METAL SURFACE AND PROTECTIVE FINISH OR SEALING COATS. AS SUCH, IT AFFORDS THE METAL ONLY MINIMAL PROTECTION AGAINST THE ELEMENTS. EIMCO IS NOT RESPONSIBLE FOR DETERIORATION OF SHOP PRIMED PAINTED SURFACES DURING TRANSIT, JOB STORAGE OR OTHER EXPOSURE TO THE ELEMENTS.
- 12. WELD AREA CLEANING IS TO CONSIST OF: REMOVE ALL FLUX FROM WELDS; REMOVE SPATTER; REMOVE SLAG FROM BURNED EDGES; MINIMUM GRIND TO CLEAN-UP EDGES.
- 13. SURFACE PREPARATION TO CONSIST OF: DRIVES TO BE MANUFACTURER'S STD. ALL FAB STEEL TO BE SSPC-SP-10 NEAR-WHITE BLAST CLEAN.
- 14. SHOP PAINTING TO CONSIST OF: DRIVES TO BE MANUFACTURER'S STD.: ALL FAB STEEL TO HAVE (1) ONE SHOP COAT OF TNEMEC. NO. 37-77 PRIMER (2.0 MILS DFT) FINAL PAINT NOT BY EIMCO.

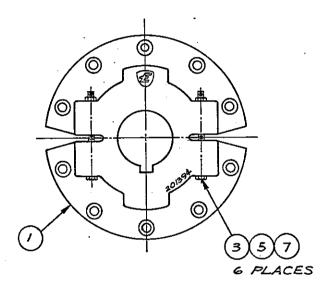
A 15. FINAL PAINT AND COLOR COAT TO BE APPLIED BY THE CONTRACTOR IN THE FIELD.

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- I. REMOVE PART NUMBER TAG(S) & AFFIX APPROPRIATE PARTS LIST NUMBER FOR PART IDENTIFICATION.
- 2. BOLT HALVES OF ITEM () TOGETHER USING ITEMS 3 5 & 7. DO NOT TORQUE. SNUG TIGHT, ONLY. USE ITEM S UNDER BOTH BOLT HEAD & NUT.

SHAFT SIZE	PART LIST Nº.
6	L48465-I
61/2	L48465-2
57/8	L48465-3
65/8	L48465-4
7	L48465-5
61/4	L48465-6
55/3	L48465-7
63/8	L48465-8
65/16	L48465-9
61/16	L48465-10

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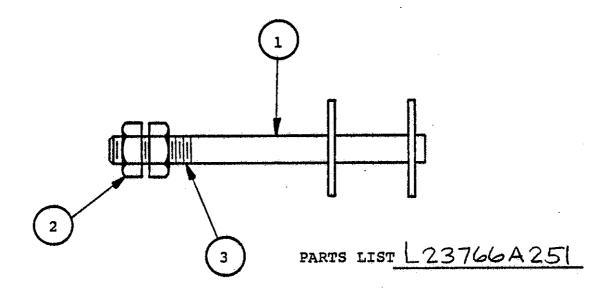
HOLD FRACTIONAL MACHINED DIMENSIONS TO ± 1/64"

	SCALE PRINTS			
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DRAWN	J.K.M.			

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INSTRUCTIONS:

- NUTS AND STUDS ARE TO BE SHOP ASSEMBLED, AS SHOWN (1).FOR SHIPPING.
- PRIOR TO ASSEMBLING NUTS, APPLY LUBRICANT(3)TO (2). THREADS OF STUD AND NUTS.
- ONE NUT IS TO BE RUN COMPLETELY TO END OF THREADS (3). ON STUDS TO INSURE PROPER FIT. NUTS MUST FIT SNUGLY, BUT NOT BIND.
- IF FIT IS JUDGED IMPROPER, CONSULT INSPECTOR FOR (4). POSSIBLE REJECTION OR REWORKING.
- (5).ASSEMBLED UNITS ARE TO BE BOXED FOR SHIPPING, WITH PROPER PACKING TO PROTECT THREADS. PACK UNUSED LUBRICANT(3)IN BOX WITH STUDS FOR USE AT JOBSITE.

