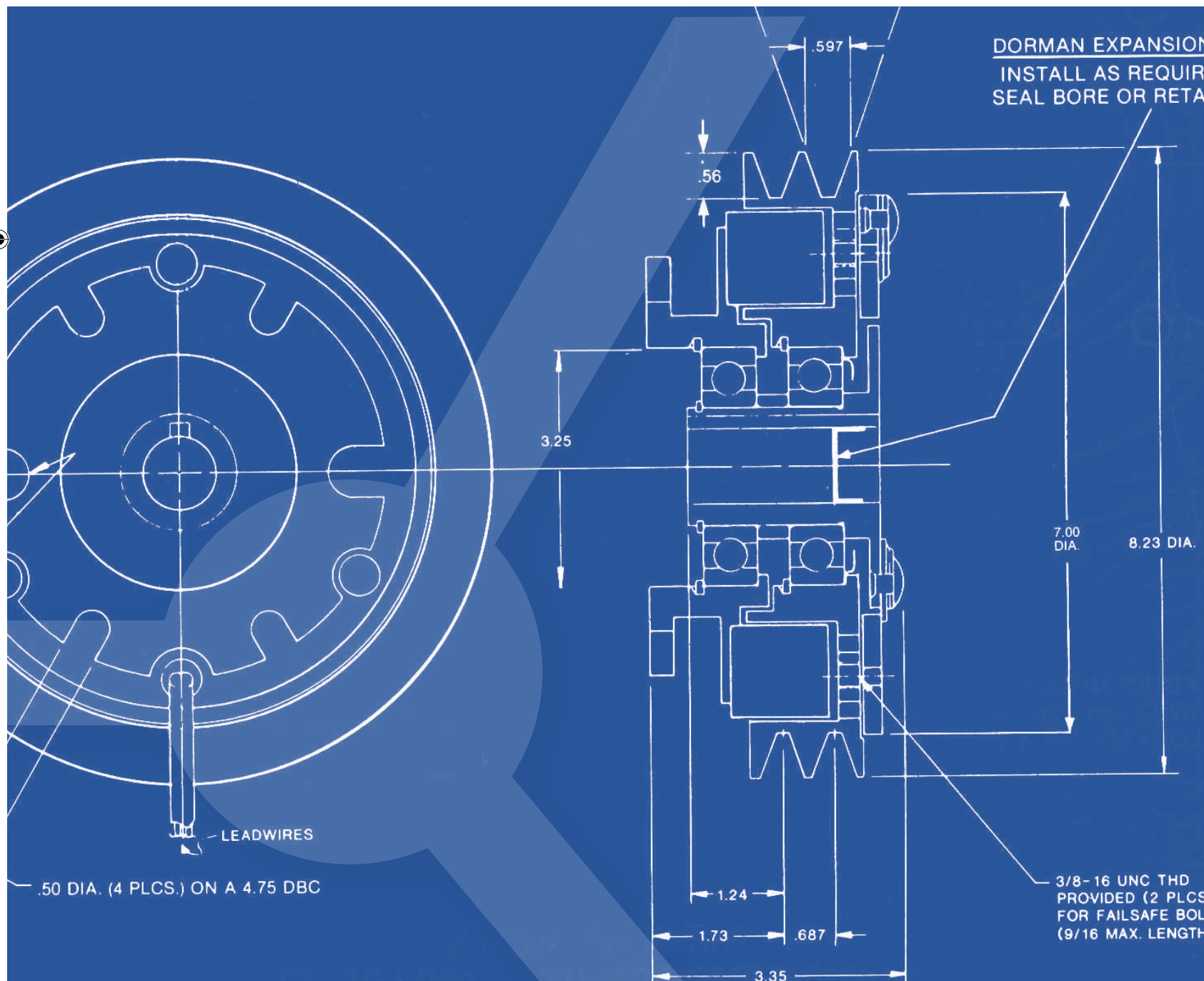




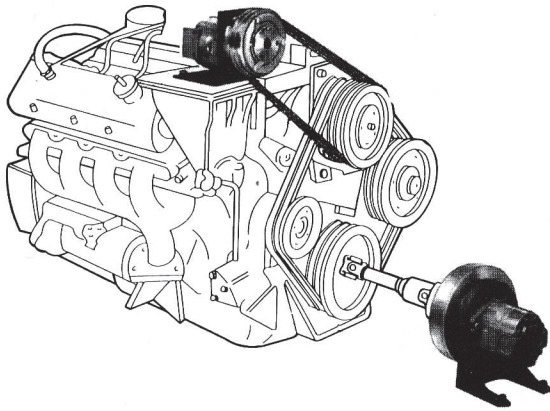
Hydraulic and Industrial Clutch Catalog



Typical Mobile Clutch Hydraulic Pump Applications



H-Series Hydraulic Pump Clutch Installation Instructions



The following installation instructions and service data is for direct shaft driven and belt driven electromagnetic clutches. Proper assembly, installation and maintenance will assure optimal application performance and extended life. Please read the appropriate section prior to assembly and operation.

A. DIRECT DRIVEN CLUTCH/BRACKET INSTALLATION

1. If the power driving source, such as vehicle engine, electric motor, etc. has not been equipped with a mounting platform, extended bumper or suitable frame work to support the pump/clutch assembly, this must be fabricated first. Most any method is acceptable as long as the platform will adequately support the total weight of the pump/clutch/bracket assembly. The mounting platform must also allow for close tolerance adjustment and alignment of the clutch center line to the power source shaft center line. This alignment must be within 3°. Check clutch and bracket dimension prior to fabrication of platform.
2. Mount the clutch to the appropriate foot mount bracket with the bolts provided and torque to specified limits.
3. Loosely position the clutch/bracket assembly on the previously fabricated mounting platform. (NOTE: Remember that close alignment is very important – if necessary, use suitable shims between the bracket and mounting platform. An alignment of zero degrees (0°) vertically and horizontally between clutch and power source shaft center line is optimum. Do not exceed 3°.
4. Drill required holes in platform to correspond to the foot mount bracket on the clutch.
5. Loosely install mount bracket bolts, nuts, lock washers, Re-check alignment (per item 3), and secure all bolts. Torque to specified limits.
6. Remove all alignment tools and/or other devices used.
7. Mount pump to foot bracket on opposite side from clutch. (NOTE: lubrication and cleanliness of the pump shaft and clutch bore is important. Thoroughly clean these areas if any contamination. Apply a thin coating of molybdenum disulfide grease on the shaft and in the bore. This will avoid installation interference, resist corrosion, and reduce friction wear). Use mounting bolts long enough to engage at least three-fourths of the threads in the mounting bracket. Do not use bolts that will touch housing after tightening. Always use lock washers. Clutches with keyways are provided with two domain plugs. When a short shaft hydraulic pump is used, the smaller plug should be tapped into the clutch bore until it bottoms on the pump shaft. If a long shaft hydraulic pump is used, then the larger plug should be installed the same way. (NOTE: it is important to install the dorman plug(s). This keeps contamination out and prevents the shaft key from moving outward.
8. Measure and select and appropriate sized universal drive line. (NOTE: consult with drive line manufacturer's specifications and select a drive line that is adequately sized to accommodate the pump and overall application requirements). See additional notes on each clutch model page in clutch catalog.
9. Install drive line between clutch and power source. Install bolts, nuts and lock washers. Torque to specified limits (NOTE: inspect the drive line for proper phasing. This means that flange yoke ears on each end of the shaft must be directly in line. If not, remove and disassemble the shaft at the splined connection and align the flange yoke ears).

10. If a speed control device is to be used, install per manufacturer's instructions.
11. This portion of the assembly is now complete. Proceed to section "C", final installation.

B. BELT DRIVEN CLUTCH/BRACKET INSTALLATION

1. Assemble the clutch, pump and bracket using bolts that will not bottom on the clutch housing. (NOTE: Lubrication and cleanliness of the pump shaft and clutch bore is important. Thoroughly clean these areas of any contamination. Apply a thin coating of molybdenum disulfide grease on the shaft and in the bore. This will avoid installation interference, resist corrosion, and reduce friction wear). Clutches with keyways are provided with two dorman plugs. When a short shaft hydraulic pump is used, the smaller plug should be tapped into the clutch bore until it bottoms out on the pump shaft. If a long shaft hydraulic pump is used, then the larger plug should be installed in the same way.
2. Mounting the pump/clutch/bracket assembly may be accomplished by various methods. You may find that on some vehicle engines there are existing available brackets and/or engine location points whereby a simple fabricated bracket will allow mounting the pump/clutch/bracket assembly with ease. Others may require a more elaborate method to mount the assembly. An alternative to fabricating your own engine mounting bracket is to use a commercially available, air-conditioning mount and drive kit. These kits may be purchased from most auto and truck air-conditioning warehouse supply centers in your area.
3. With a suitable mount/drive bracket in place and all necessary minor adjustments completed, you are now ready to install the pump/clutch/bracket assembly. Make sure that the pulleys are lined up and the shafts are parallel. This can be done by placing a straightedge against the outside edge of the driver pulley and moving and clutch pulley and moving clutch/pump/bracket until the straightedge touches two sides of both pulleys. Use extreme caution and avoid any possible interference with other accessory members and drive belts. Stay clear of the radiator, fan and hood area. Misalignment causes many problems, some of which are:
 - SATBILITY: misaligned belts are subject to turnover or rolloff.
 - NOISE: Misaligned belts can create a noisy drive.
 - WEAR: Misalignment will accelerate wear on the side of the belt that comes in contact with the pulley first.
 - LIFE: a significant degree of misalignment rapidly decreases belt life.
 - MULTIPLE BELT DRIVE: When necessary to use more than one belt on a drive, use a matched set of belts. If all the belts are not of the same length, the shorter belt will operate under more tension than the longer one and their service life may be correspondingly shortened. Therefore, if a drive is designed to use more than one belt, order the belts in matched sets. Make sure the matched set is of belts of the same manufacturer. If belts of different manufacturers are used the pitch line location and other construction features will not be the same. This will result in the belts not operating properly together.
4. Position the assembly so that the belts can be put on without force. Although V-belts are elastic, they are not rubber bands. Forcing a belt over the groove can result in broken tensil cords in the belt and limited belt life. Using a belt tensiometer, tighten belts to 100-110 lbs., per strand.

C. FINAL INSTALATION INSTRUCTIONS FOR:

A- DIRECT DRIVEN CLUTCHES

B- BELT DRIVEN CLUTCHES

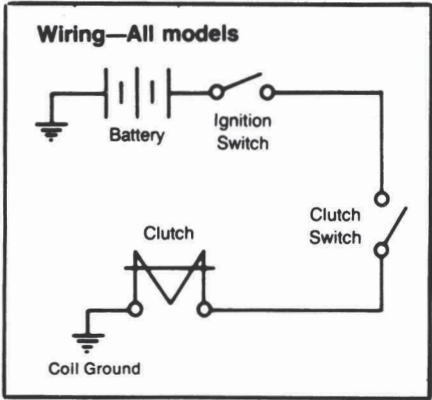
1. Completely inspect the entire assembly and installation. Check and secure all areas for loose or removed components during the installation.
2. Proper connection of the clutch coil to the D.C. Electrical System is very important. Locate a circuit controlled by the vehicle ignition switch, is possible. This will prevent the clutch from being engaged when the vehicle is not in use. The coil in the field assembly is continuous run wire. One end of the wire is connected to positive (+). The other end to negative (-) (ground). If the coil has only one led wire protruding from the housing, it will be connected to positive

H-Series Hydraulic Pump Clutch Installation Instructions (continued)

(+) as the other end is internally grounded to the case. If two lead wires are protruding, connect one to positive (+) and one to negative (-) (ground). Proper clutch operation and clutch life relies on adequate supply of rated D.C. voltage to the field coil.

LOW VOLTAGE = CLUTCH FAILURE

The wiring circuit may vary, depending on whether or not a speed control device is used in the system. This schematic illustrates a simple method of connecting to the D.C. circuitry.



3. **IMPORTANT:** When the system installation is complete, mechanically and electrically, and the pump/clutch can be operated, a functional check is necessary. With the power source running at 1,000 to 1,200 RPM, cycle the clutch on/off at a rate of 5 sec. on- 5 sec. off for a total of 25 cycles. The armature plate should "Snap" firmly against the rotor. If not, re-check for rated voltage at the lead wire and check for proper grounding.
4. The clutch automatically compensates for wear requiring no adjustment throughout the life of the clutch. DO NOT lubricate the unit. If the clutch should fail to operate, check the electric circuit to be sure that the proper voltage is being supplied to the clutch. DO NOT attempt to make any mechanical adjustments on the clutch.

5. **CAUTION:** At the moment of engagement, the clutch must pick up all related inertia load of the clutch components and other components being put into rotary motion. This action is correlated to dynamic torque. The larger the clutch and related components the higher the inertia load. Higher R.P.M. engagement of the clutch creates an excessive shock load and may cause breakage of the leaf springs and/or clutch slippage and ultimate clutch failure. On direct drive clutches the input drive shaft may also break causing excessive to surrounding area. Please refer to these recommendations regarding maximum clutch engagement R.P.M.

Clutch Model					
H24	H27	H28	H36	H49	H55
Max. Engagement R.P.M.					
2,500	1,800	1,500	1,200	1,200	1,200

- CONCLUSION:**
- Satisfactory performance and life expectancy of your clutch drive system depends on:
- **MATCHED COMPONENTS:** Pump/Clutch/Brackets and Drive Line equally sized to handle the job
 - **ALIGNMENT:** Direct Drive Lines within 3° (0° is optimum). Belt Drives within 1/8" (Pulley to Pulley).
 - **NO LEAKS:** Hydraulic Fluid, oil and contamination in and around clutch friction surfaces and bearings equals "Short Life".
 - **ELECTRICAL:** Full rated D.C. voltage must be applied to coil. A loss of 1 volt, on a 12 volt system, equals 9% less torque.
 - **SCHEDULED MAINTAINENCE:** Inspect the entire drive system periodically for proper operation.
 - **HIGH RPM ENGAGEMENT:** refer to item 5 (above). Use caution signs-train the operator.

PERFORMANCE ASSURANCE

The performance of an electro-magnetic clutch depends upon the proper application of the product, adequate run-in, installation and maintenance procedures, and reasonable care in operation of the unit.

All torque values listed in our literature are nominal and are subject to the variations normally associated with friction devices. Adequate and reasonable service factors must be applied when selecting units. Although application engineers are available for consultation, final selection and performance assurance on the buyer's application is the responsibility of the purchaser. The buyer should take into consideration all variables shown in the applicable specification sheet. Careful selection, adequate testing, and proper operation and maintenance of all products should aid in obtaining the best possible performance.

TORQUE

In determining torque requirements for a given machine application, the following relationship of Torque R.P.M. and horsepower is useful.

Mechanical

$$T = \frac{5252 \times \text{H.P.}}{\text{R.P.M.}}$$

Where T = Torque (Pound Feet)
HP = Horsepower
R.P.M. = Speed of Clutch, Revolutions per minute

Fluid Power

$$T = \frac{\text{CIR} \times \text{PSI}}{75.4}$$

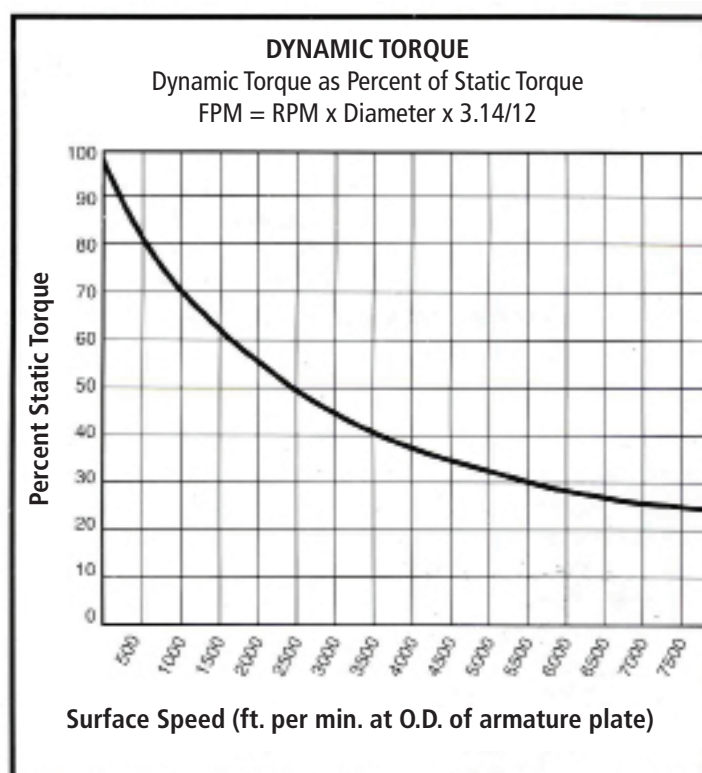
CIR = Cubic inch per revolution (Hydraulic Pump)
PSI = Pounds per square inch

STATIC TORQUE

All references to torque capacity are in terms of static torque, the "break-away" torque required to slip a locked-up clutch or brake.

DYNAMIC TORQUE

Dynamic torque is that applied during the period when the surfaces are sliding into engagement. As a percentage of static torque, dynamic torque varies with surface slip speed and is represented on the accompanying graph.

**TORQUE – HORSEPOWER – RPM RELATIONS**

What size clutch do you need for your application?

- Determine R.P.M. of operation at the clutch.
- Determine Horsepower that clutch will drive.
- Determine clutch torque required by using the following formula or read directly from chart below.

To find Torque: use formula: $T = (\text{H.P.} \times 5252) \div \text{R.P.M.}$

Figures in the body of the Chart are Torque Values in Pound Feet

HP	100 RPM	500 RPM	750 RPM	1000 RPM	1200 RPM	1500 RPM	1800 RPM	2400 RPM	3000 RPM
1/4	13.1	2.63	1.76	1.31	1.10	.876	.730	.548	.438
1/3	17.5	3.50	2.34	1.75	1.46	1.17	.972	.730	.584
1/2	26.3	5.25	3.50	2.63	2.20	1.75	1.46	1.10	.875
3/4	39.4	7.87	5.24	3.94	3.28	2.62	2.18	1.64	1.31
1	52.5	10.5	7.00	5.25	4.38	3.50	2.92	2.19	1.75
1 1/4	78.8	15.7	10.5	7.88	6.56	5.26	4.38	3.28	2.63
2	105	21.0	14.0	10.5	8.76	7.00	5.84	4.38	3.50
3	158	31.5	21.0	15.8	13.1	10.5	8.76	6.57	5.25
5	263	52.5	35.0	26.3	22.0	17.5	14.6	11.0	8.75
7 1/2	394	78.8	53.2	39.4	32.8	26.6	21.8	16.4	13.1
10	525	105	70.0	52.5	43.8	35.0	29.2	21.9	17.5
15	788	158	105	78.8	65.6	52.6	43.8	32.8	26.5
20	1050	210	140	105	87.6	70.0	58.4	43.8	35.0
25	1313	263	175	131	110	87.7	73.0	54.8	43.8
30	1576	315	210	158	131	105	87.4	65.7	52.6
40	2100	420	280	210	175	140	116	87.5	70.0
50	2626	523	350	263	220	175	146	110	87.5
60	3131	630	420	315	262	210	175	131	105
75	3940	788	532	394	328	266	218	164	131
100	5250	1050	700	525	438	350	292	219	175
125	6570	1313	882	657	548	441	364	274	218
150	7880	1580	1050	788	656	526	438	328	265
200	10,500	2100	1400	1050	876	700	584	438	350
250	13,130	2630	1750	1310	1100	877	730	548	438

*Other useful formulas:

To find Horsepower: use formula

$$\text{H.P.} = (T \times \text{R.P.M.}) \div 5252$$

To find R.P.M. use formula

$$\text{R.P.M.} = (\text{H.P.} \times 5252) \div T$$

Note: See additional Horsepower data on next page.

SERVICE FACTOR

When actual clutch torque is determined for your application, a service factor (or K-factor) must be added to this value. The K-factor is necessary in order to avoid clutch slippage caused by system pressure spikes and/or high RPM engagement shock load to the clutch. Multiply actual torque value required by the K-factor listed below for your particular application.

- For light machines such as drilling, where load is applied after clutch is engaged..... K = 1 1/2 to 2 1/2
- For electric motors where (during overloads) clutch stalls the motor, use pullout torque factor from motor catalog, or approximately K = 2 to 3
- For engines where clutch should be strong enough to stall engine..... K = 2 to 4
- For refrigerant and air compressors..... K = 2 to 4
- For hydraulic pumps where pressure may be on the system at instant of engagement K = 2 1/2 to 5
- Conveyors and augers, where static load on system must be started by the slipping torque of the clutch..... K = 3 to 5
- The resulting torque requirement, $K \times T$ = Required Torque of clutch.
- Example: Known: 25 H.P. hydraulic pump load at 1800 R.P.M. an occasional pressure spike may occur and the pump will be in the max pressure or by-pass condition K = 3 is selected. From the chart at left, 25 H.P. at 1800 R.P.M. calls for 73 lb. ft. of Torque. $T = 73$. Then $K \times T = 219$. We would therefore recommend our MT Clutch Model H-28, "high torque" rated at 200 lb. ft.

Horsepower to a Drive Pump

The standard formula for calculating hydraulic (fluid power) horsepower is: **HP = PSI x GPM ÷ 1714**. Most positive displacement hydraulic pumps have an efficiency range of 80% to 90%. Figures, in the body of the table below, show the horsepower needed to drive a hydraulic pump having an efficiency of 85%. Therefore, this table is accurate to within 5% of nearly any hydraulic pump. The table below was calculated using this formula:

HP = PSI x GPM ÷ 1456.9 (1714 x 85% efficiency = 1456.9). For pumps, with other than 85% efficiency, this formula can be used by substituting actual efficiency in place of .85.

Using this table:

The range of 500 to 5000 PSI covers most hydraulic systems, but power requirements can be determined for conditions outside the table, or for intermediate values, by combining values in the table. For example, power at 4000 PSI will be exactly twice the figures shown for 2000 PSI. At 77 GPM, power will be the sum of the figures shown in the 75 and 2 GPM lines, etc.

For systems of less than 500 PSI, horsepower calculations tend to become inaccurate because mechanical friction losses reduce pump efficiency.

Rules-of-Thumb:

Approximate power requirements can be figured with simple mental arithmetic with this rule-of-thumb.

1 HP is required for each 1 GPM @ 1500 PSI

For example, a 5 GPM pump operating at 1500 PSI would need 5 HP, or at 3000 would need 10 HP. A 10 GPM pump at 1000 PSI would need 6-2/3 HP, or the same pump operating at 1500 PSI would need 10 HP, etc. Another rule-of-thumb states that about 5% of the pump maximum rated horsepower is required to idle that pump when it is "unloaded" and the oil is circulating at zero PSI. This amount of power is consumed in flow losses plus mechanical friction losses in bearings and pumping elements.

Figures in table are HP's required to drive a hydraulic pump.

GPM	500 PSI	750 PSI	1000 PSI	1250 PSI	1500 PSI	1750 PSI	2000 PSI	2500 PSI	3000 PSI	5000 PSI
1/2	.172	.257	.343	.429	.515	.600	.686	.858	1.03	1.72
1	.343	.515	.686	.858	1.03	1.20	1.37	1.72	2.06	3.43
1½	.515	.772	1.03	1.29	1.54	1.80	2.06	2.57	3.09	5.15
2	.686	1.03	1.37	1.72	2.06	2.40	2.75	3.43	4.12	6.86
2½	.858	1.29	1.72	2.14	2.57	3.00	3.43	4.29	5.15	8.58
3	1.03	1.54	2.06	2.57	3.09	3.60	4.12	5.15	6.18	10.3
3½	1.20	1.80	2.40	3.00	3.60	4.20	4.80	6.00	7.21	12.0
4	1.37	2.06	2.75	3.43	4.12	4.80	5.49	6.86	8.24	13.7
5	1.72	2.57	3.43	4.29	5.15	6.00	6.86	8.58	10.3	17.2
6	2.06	3.09	4.12	5.15	6.18	7.21	8.24	10.3	12.4	20.6
7	2.40	3.60	4.80	6.00	7.21	8.41	9.61	12.0	14.4	24.0
8	2.75	4.12	5.49	6.86	8.24	9.61	11.0	13.7	16.5	27.5
9	3.09	4.63	6.18	7.72	9.27	10.8	12.4	15.4	18.5	30.9
10	3.43	5.15	6.86	8.58	10.3	12.0	13.7	17.2	20.6	34.3
12	4.12	6.18	8.24	10.3	12.4	14.4	16.5	20.6	24.7	41.2
15	5.15	7.72	10.3	12.9	15.4	18.0	20.6	25.7	30.9	51.5
20	6.86	10.3	13.7	17.2	20.6	24.0	27.5	34.3	41.2	68.6
25	8.58	12.9	17.2	21.4	25.7	30.0	34.3	42.9	51.5	85.8
30	10.3	15.4	20.6	25.7	30.9	36.0	41.2	51.5	61.8	103
35	12.0	18.0	24.0	30.0	36.0	42.0	48.0	60.0	72.1	120
40	13.7	20.6	27.5	34.3	41.2	48.0	54.9	68.6	82.4	137
45	15.4	23.2	30.9	38.6	46.3	54.1	61.8	77.2	92.7	154
50	17.2	25.7	34.3	42.9	51.5	60.0	68.6	85.8	103	172
55	18.9	28.3	37.8	47.2	56.6	66.1	75.5	94.4	113	189
60	20.6	30.9	41.2	51.5	61.8	72.1	82.4	103	124	206
65	22.3	33.5	44.6	55.8	66.9	78.1	89.2	112	134	223
70	24.0	36.0	48.0	60.0	72.1	84.1	96.1	120	144	240
75	25.7	38.6	51.5	64.3	77.2	90.1	103	129	154	257
80	27.5	41.2	54.9	68.6	82.4	96.1	110	137	165	275
85	29.2	43.8	58.3	72.9	87.5	102	117	146	175	292
90	30.9	46.3	61.8	77.2	92.7	108	124	154	185	309
95	32.6	48.9	65.2	81.5	97.8	114	130	163	196	326
100	34.3	51.5	68.6	85.8	103	120	137	172	206	343

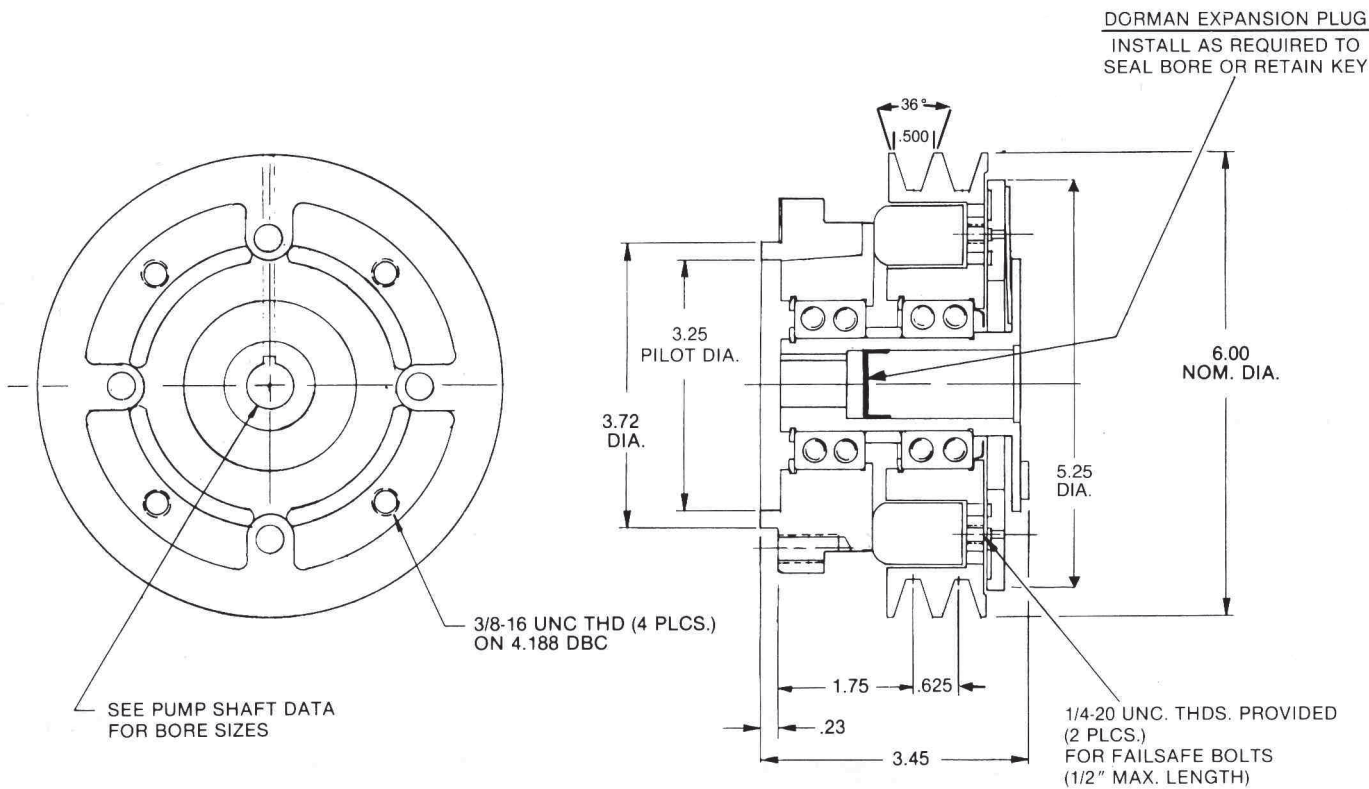
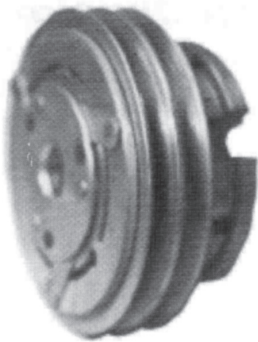
The above data is the calculation typically used for an "average" hydraulic pump and system. For a system that may have unusual pressure spikes, non-matched components, or other idiosyncrasies, an additional horsepower requirement must be considered. When horsepower requirement has been calculated, refer to the nomograph on previous page for horsepower – torque – R.P.M. correlation. Clutches are rated by LBS. FT. of torque.

NOTE: A service factor must be added to the actual torque requirement. See service factor data.

H24V90 CLUTCH

Hydraulic Pump Drive
12 or 24 Volt D.C. – V-Belt Driven – 1/2" Wide Belts

12 Volt Amp Draw 4.0 | Max RPM 5000 | Weight 14 lbs.



STATIC RATED TORQUE – 90 LBS. FT.

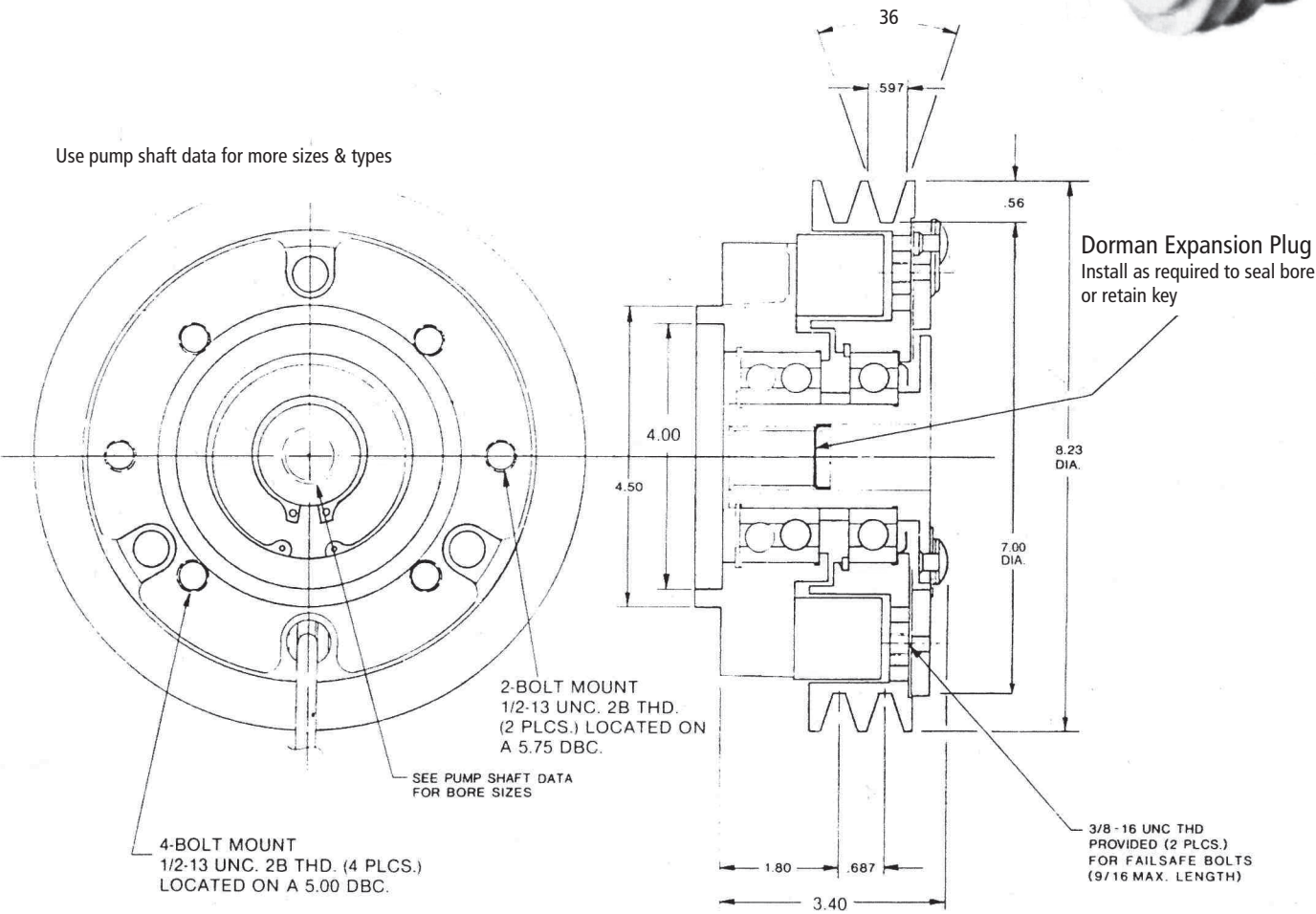
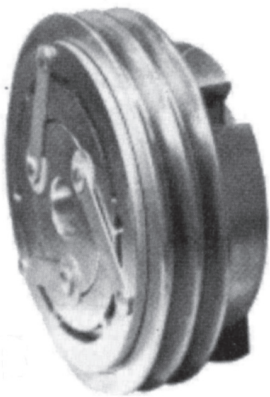
24 Volt Clutch Part No.	12 Volt Clutch Part No.	For Pump Shaft Size	For Pump Mount Style
N/A	MT-13229	"A" SPLINE 9T 16/32 DP	"A" 2 Bolt
MT-13817	MT-13233	3/4" - WITH 3/16" KEY WAY	"A" 2 Bolt

H28V200 CLUTCH

Hydraulic Pump Drive

12 or 24 Volt D.C. – V-Belt Driven – 5/8” Wide Belts

12 Volt Amp Draw 6.0 | Max RPM 3600 | Weight 30 lbs.



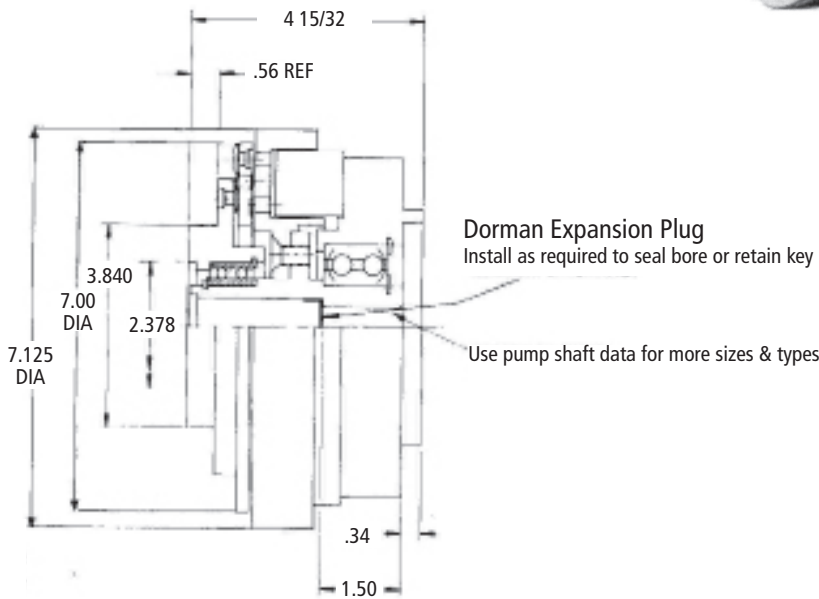
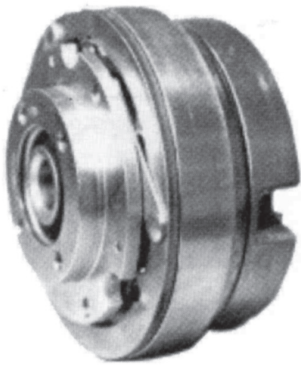
STATIC RATED TORQUE – 200 LBS. FT.

24 Volt Clutch Part No.	12 Volt Clutch Part No.	For Pump Shaft Size	For Pump Mount Style
MT-13730	MT-13244	1" - WITH 1/4" KEYWAY	"B" 2 OR 4 BOLT
MT-13654	MT-13245	"B" SPLINE 13T 16/32 DP	"B" 2 OR 4 BOLT
MT-14046	MT-13246	7/8" - WITH 1/4" KEYWAY	"B" 2 OR 4 BOLT

H28D200 CLUTCH

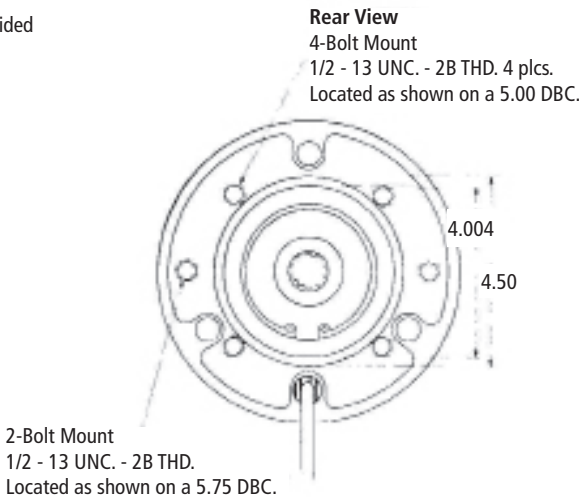
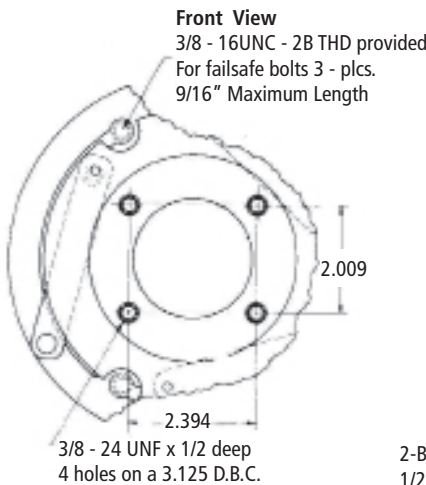
Hydraulic Pump Drive
12 or 24 Volt D.C. – Shaft Driven

12 Volt Amp Draw 6.0 | Max RPM 3600 | Weight 30 lbs.



Inertia
Rotor Assy.39 LB. FT.²
Armature Assy....18 LB. FT.²

- NOTE**
- Drive flange bolt pattern and pilot diameter on clutch are dimensioned to correlate with "Spicer" type 1280-1310 series drive shaft flange connections.
 - Proper drive shaft selection is important. Consult with drive shaft manufacturers specifications for each specific application requirements.
 - Drive shaft alignment must be within 3°.
 - Please review performance assurance on bottom of page 3B.



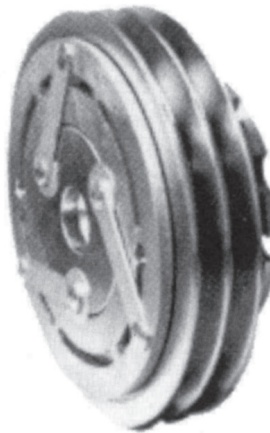
STATIC RATED TORQUE – 200 LBS. FT.

24 Volt Clutch Part No.	12 Volt Clutch Part No.	For Pump Shaft Size	For Pump Mount Style
MT-13814	MT-13394	"B" SPLINE 13T 16/32 DP	"B" 2 OR 4 BOLT
MT-14171	MT-13396	1" - WITH 1/4" KEYWAY	"B" 2 OR 4 BOLT

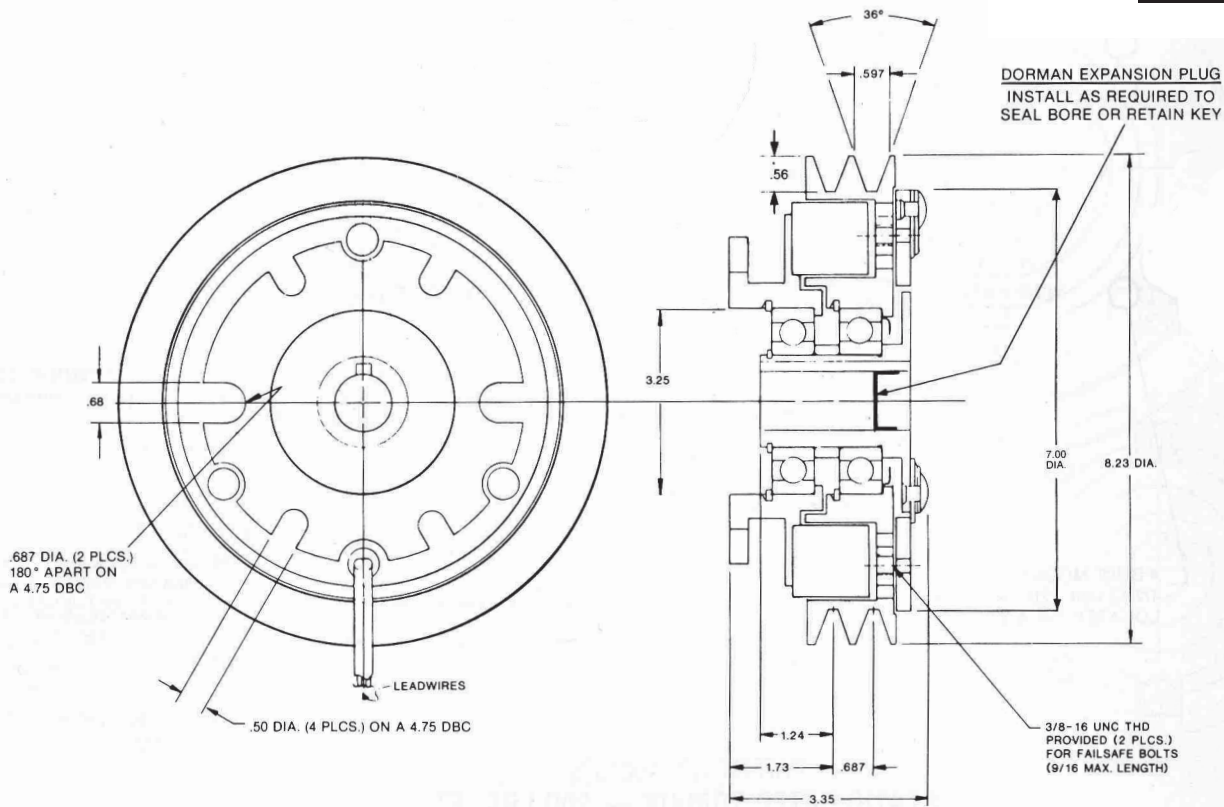
H28V200 CLUTCH

Hydraulic Pump Drive – (Gresen TC)
12 or 24 Volt D.C. – V-Belt Driven – 5/8” Wide Belts

12 Volt Amp Draw 6.0 | Max RPM 3600 | Weight 28 lbs.



FOR GRESEN
PUMP ONLY



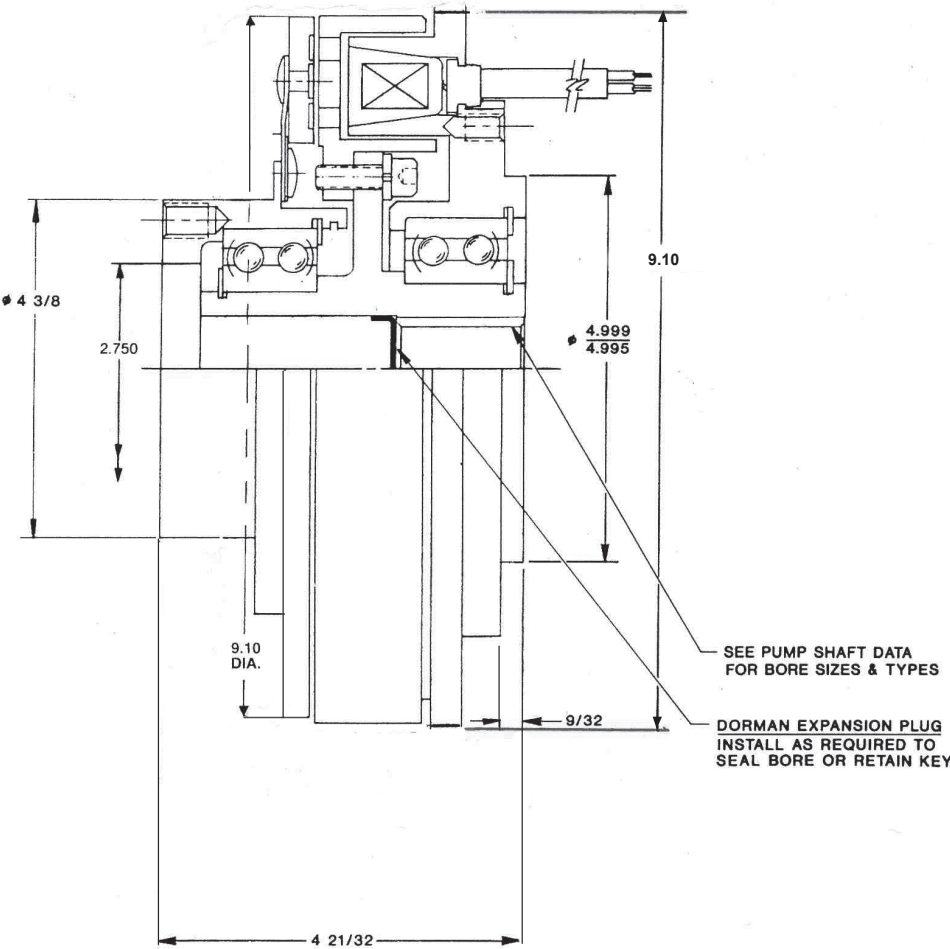
STATIC RATED TORQUE – 200 LBS. FT.

24 Volt Clutch Part No.	12 Volt Clutch Part No.	For Pump Shaft Size	For Pump Mount Style
MT-13500	MT-13403	1" STRAIGHT KEYED X 1/4" KWY	"A" 6 BOLT

H36D400 CLUTCH

Hydraulic Pump Drive
12 or 24 Volt D.C. – Shaft Driven

12 Volt Amp Draw 7.6 | Max RPM 3600 | Weight 44 lbs.



NOTE:
See next page for drive and mounting flange dimensions.

STATIC RATED TORQUE
400 LBS. FT.

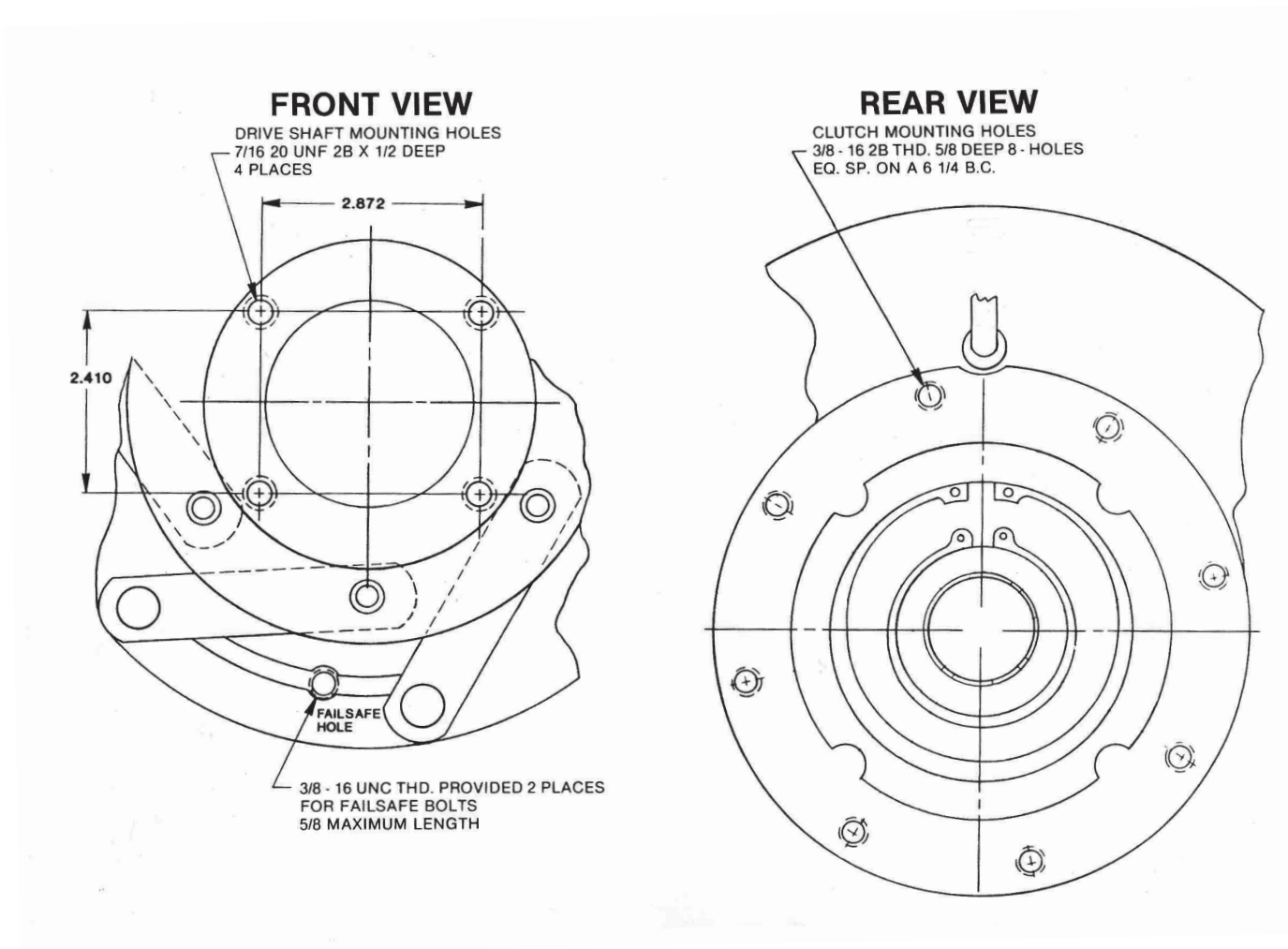
INERTIA

Rotor Assy. .79 LB. FT.²
Armature Assy. .48 LB. FT.²

24 Volt Clutch Part No.	12 Volt Clutch Part No.	For Pump Shaft Size	For Pump Mount Style
MT-13856	MT-13378	"C" SPLINED 1-1/4" 14T 12/24 DP	"C" 2-4
MT-13798	MT-13538	"C" - 1-1/4" WITH 5/16" KEYWAY	"B" 2 -4
MT-13859	MT-13589	"B" SPLINED 7/8" 13T 16/32 DP	-----

H36D400 CLUTCH

MOUNTING DIMENSIONS

**NOTE:**

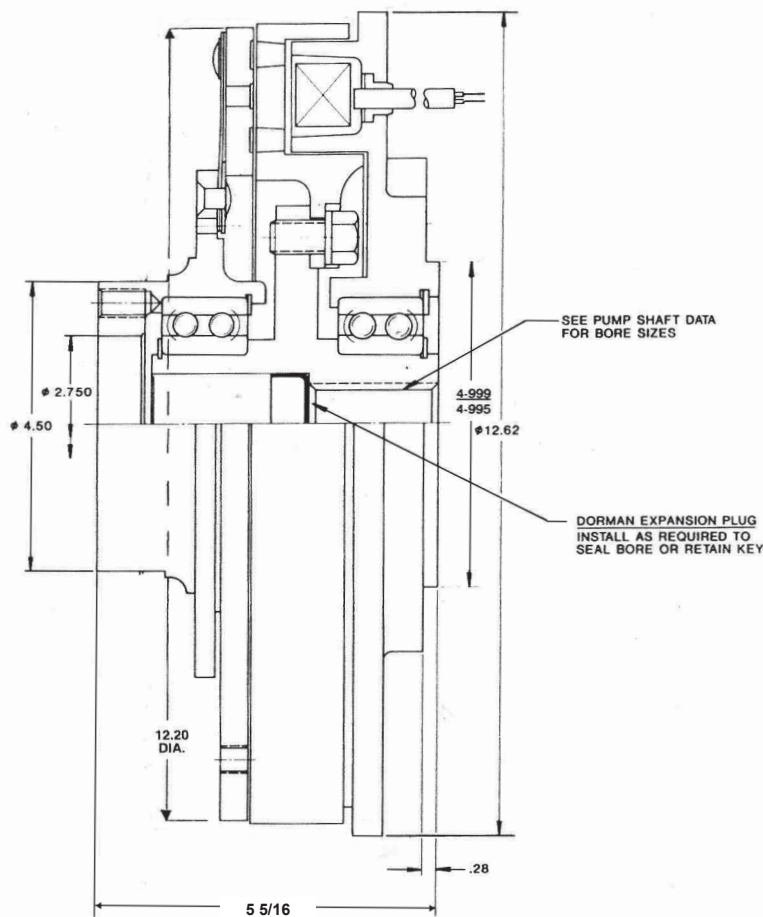
- Drive flange bolt pattern and pilot diameter on clutch are dimensional to correlate with "Spicer" type 1350-1410 series drive shaft flange connections.
- Proper drive shaft selection is important. Consult with drive shaft manufacturers specifications for each specific application requirements.
- Drive shaft alignment must be within 3°.

H49D1000 CLUTCH

Hydraulic Pump Drive

12 or 24 Volt D.C. – Shaft Driven

12 Volt Amp Draw 7.6 | Max RPM 3000 | Weight 76 lbs.



NOTE:
See next page for drive and mounting flange dimensions.

STATIC RATED TORQUE
1,000 LBS. FT.

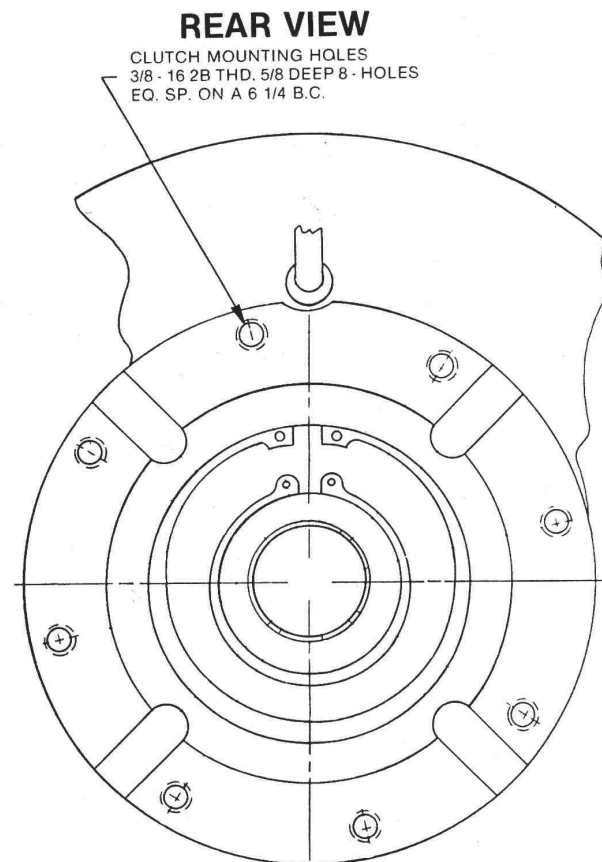
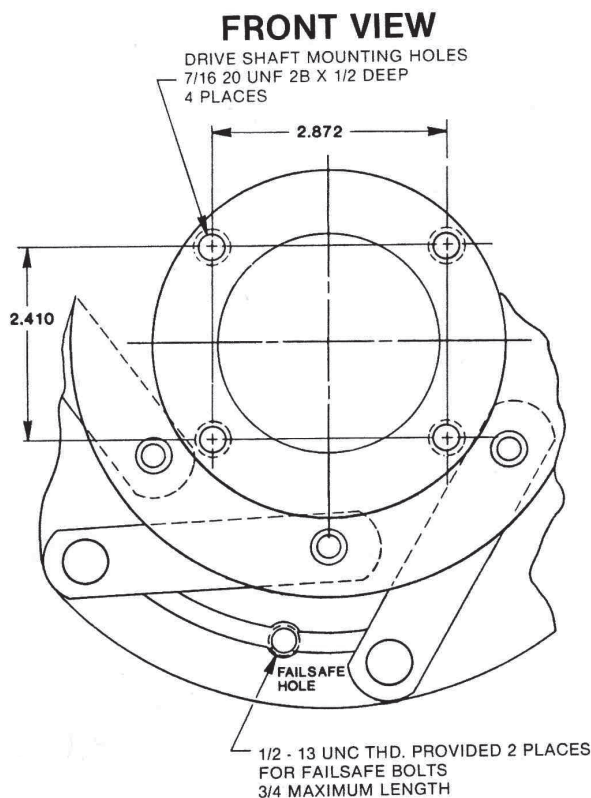
INERTIA

Rotor Assy.	2.76 LB. FT. ²
Armature Assy.	1.88 LB. FT. ²

24 Volt Clutch Part No.	12 Volt Clutch Part No.	For Pump Shaft Size	For Pump Mount Style
MT-13902	MT-13635	"C" SPLINED 1-1/4" 14T 12/24 DP	"C" 2-4
MT-14144	MT-13557	"C" - 1-1/4" WITH 5/16" KEYWAY	"B" 2 -4

H49D1000 CLUTCH

MOUNTING DIMENSIONS

**NOTE:**

- Drive flange bolt pattern and pilot diameter on clutch are dimensional to correlate with "Spicer" type 1410 series drive shaft flange connections.
- Proper drive shaft selection is important. Consult with drive shaft manufacturers specifications for each specific application requirements.
- Drive shaft alignment must be within 3°.

HEAVY DUTY

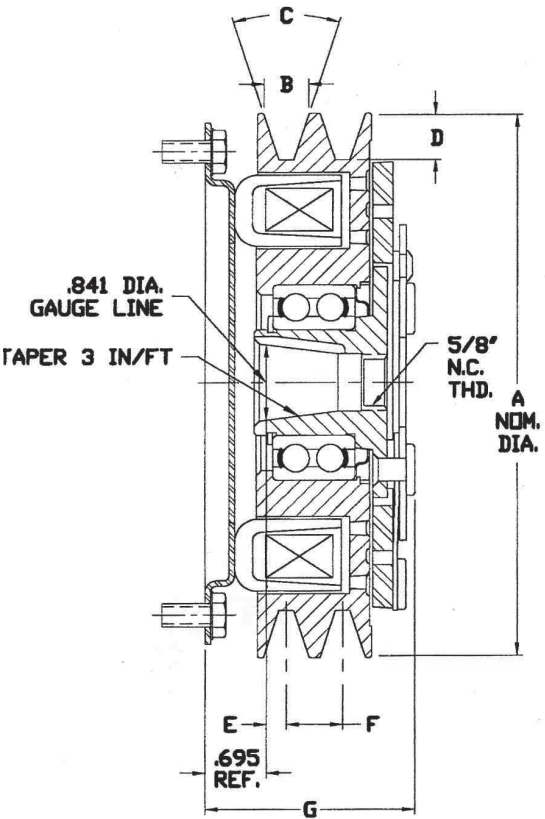
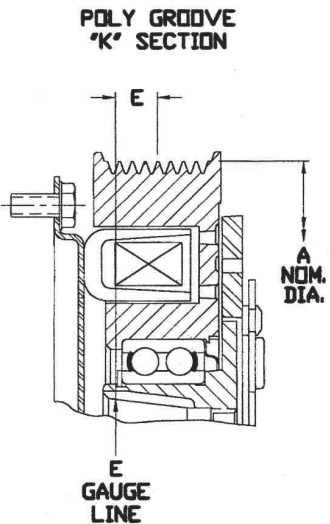
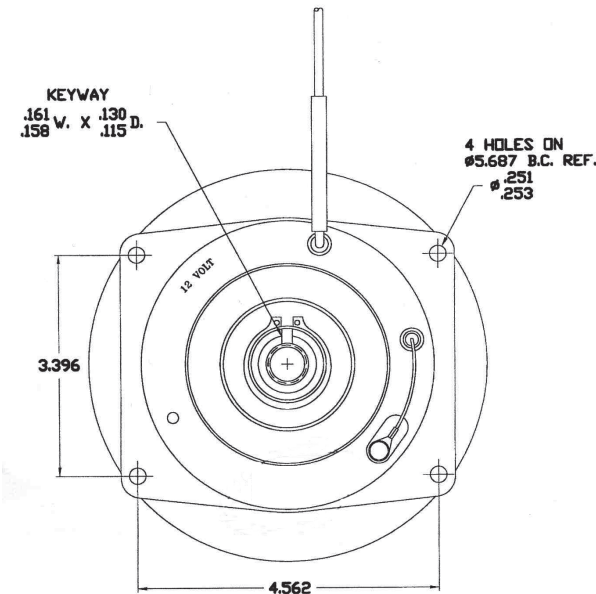
(AG – Off Road – Truck)

TAPER BORE

These heavy duty clutches have been utilized for many years on air compressors, spray rigs, and refrigerant compressors. Whether for those long haul diesel trucks or rugged off-road equipment, this clutch can do the job.

The heavy duty doubles row bearing has been tested to 4,000 hours and is specially designed for a hot, dusty environment.

Stationary field coil assembly is to be mounted concentric to the shaft within .015 T.I.R. Use shoulder bolts provided. Coil face to pulley cavity face – 3/32".

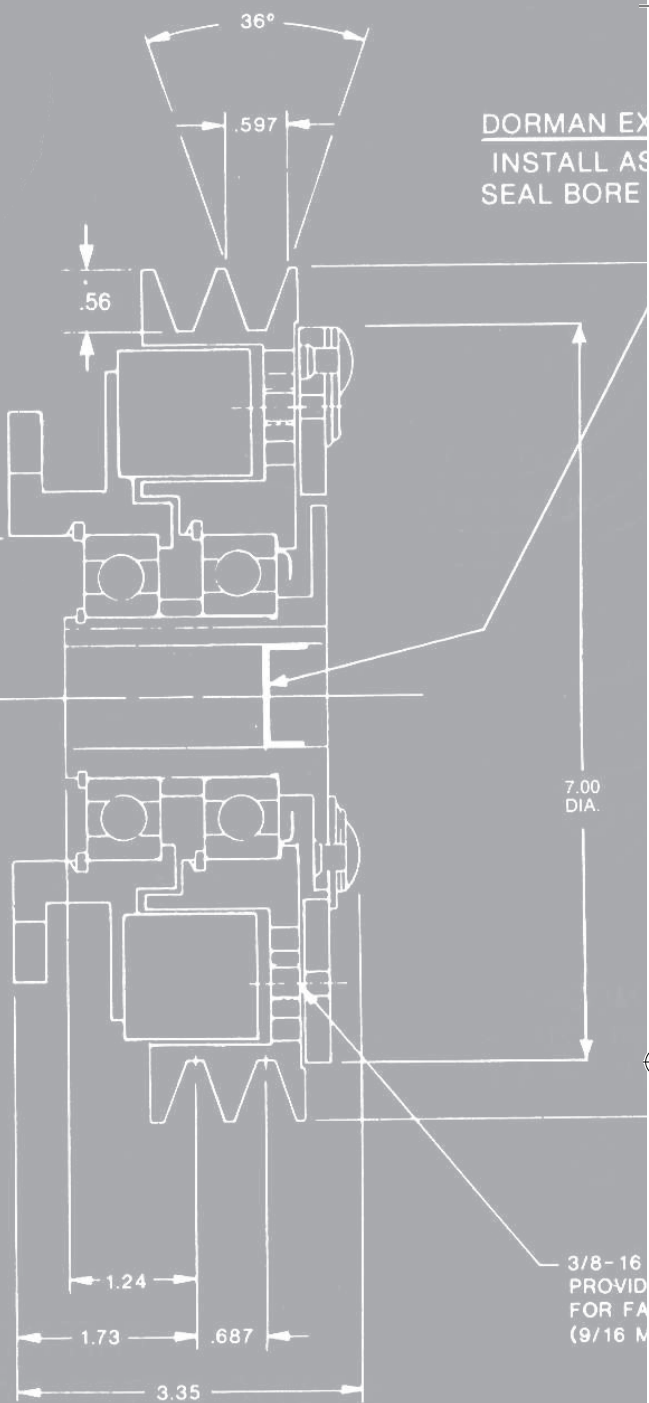


Single Leadwire Part No.	A	B	C	D	E	F	G	NO. OF GROOVES
MT-14193	6.700	.500	36°	.500	.192	.620	1.650	2
MT-14194	5.800	.140	40°	.140	.581	.140	1.650	6
MT-14195	5.308	.140	40°	.140	.442	.140	1.650	8
MT-14196	6.300	.597	36°	.552	1.250	-----	2.000	1
MT-14261	6.000	.540	36°	.500	.192	.620	1.650	2



.50 DIA. (4 PLCS.) ON A 4.75 DBC

3.25



DORMAN EX
INSTALL AS
SEAL BORE

7.00
DIA.

3/8-16
PROVIDE
FOR FA
(9/16 M



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