HAYES®

We've Got Connections

POWER TRANSMISSION PRODUCTS

Hayes Manufacturing, Inc.
6875 US Highway 131
Fife Lake, MI 49633
Phone: 231-879-3372 | Fax: 231-879-4330
www.hayescouplings.com

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POWER TRANSMISSION PRODUCTS

Hayes Original Flywheel Coupling

- One-piece design
- Easy installation
- Ideal for production environment
- Rugged steel construction
- Competitively priced
- Accepts many shaft options
- SAE and non-standard options
- Horsepower range: 20 – 900

HEX-FLX Coupling

- Light and compact
- Long service life
- Easy, two-piece blind mounting
- Patented locking-system
- Hubs can be modified
- SAE and non-standard options
- Economically priced
- Horsepower range: 20-600

Engine Housings

- High-strength aluminum/ductile iron
- Designed to support heavy pumps
- Custom fit to engine starter plates
- SAE and non-standard pump mounts
- Can be customized and personalized
- Competitively priced

Stub Shafts

- Rugged construction
- Easy installation
- Bearing-supported options
  Drive coupling options:
  - Hayes Original
  - Hayes HEX-FLX
- Various sizes from 1-7/16" to 2-1/2"
- Standard SAE and custom shafts
- Tapered generator shafts
- Approved by many engine manufacturers

Hayes Jaw Couplings

- All-purpose three-piece drive coupling
- Available in steel or aluminum
- Large size range
- Multiple drive insert material options
- Special locking system available
- Proven performance

L-Series Jaw Couplings

- All-purpose three-piece drive coupling
- Hytrel and Buna-N drive insert options
- Large size range (L035-L225)
- Interchangeable with popular domestic brands
- Proven performance
- Economically priced

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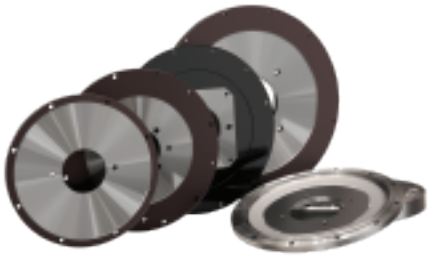
Yoke Drive Couplings

- Easy installation
- Internally supported
- Reduces driveline vibration
- Multiple yoke mounts and hub lengths
- SAE and non-standard options
- Proven performance
- Cost effective

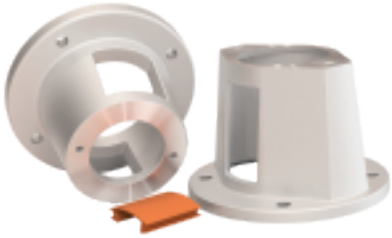


Pump Mount Plates

- Rugged steel construction
- Multiple thickness options
- Easy installation
- Secure mounting
- SAE and non-standard options
- Customized plating or painting

Marine/Irrigation

- One-piece design
- Easy installation
- Rugged steel construction
- Absorbs vibration and shock loads
- Long service life
- SAE and non-standard options
- Competitively priced



Motor/Pump Adapters

- Easy installation
- Cast aluminum
- Lightweight
- Many options available
- Can be customized

Generator Drives

- Easy installation
- Rugged aluminum housing
- Heavy-duty steel tapered shaft
- Custom alignment
- Various sizes
- Approved by many engine manufacturers

Dyno Drive Shafts

- Easy installation
- Heavy-duty design
- Serviceable for long- life
- Proven performance
- Wide-range of shaft configurations
- Contact our Engineering Department

About Us:

Hayes Manufacturing is located in the beautiful town of Fife Lake, Michigan. We are a woman -owned, small business and proud to make our products in the USA. Our goal is to be your "one-stop" shop for all your power transmission needs. Contact us today to see how we can help power your success!

WHY CHOOSE HAYES?

Certifications:

- ISO 9001 Quality Standard
- ISO 14001 Enviornmental Standard
- Certified woman-owned (WBENC Cert # 2005127693)
- WOSB Certified

Custom Designs:

Our Engineering Department has the experience and knowledge to evaluate custom designs. Because we offer in-house design services, we can take a project from quote to design to prototype quickly and economically.

Interactive Website:

You can find detailed product information, search for assemblies, print product drawings, search for distributors, place an order and much more on:
www.hayescouplings.com

Satisfied Customers:

The best part of our job! We love it when our customers give us feedback regarding our products and service. We're proud of our reputation and work hard to protect it. See our website for customer testimonials.

Distributor Training Services

We offer web-based training to familiarize your sales staff with our products and service. In-house training is available upon request. Contact us to schedule a personalized training session.

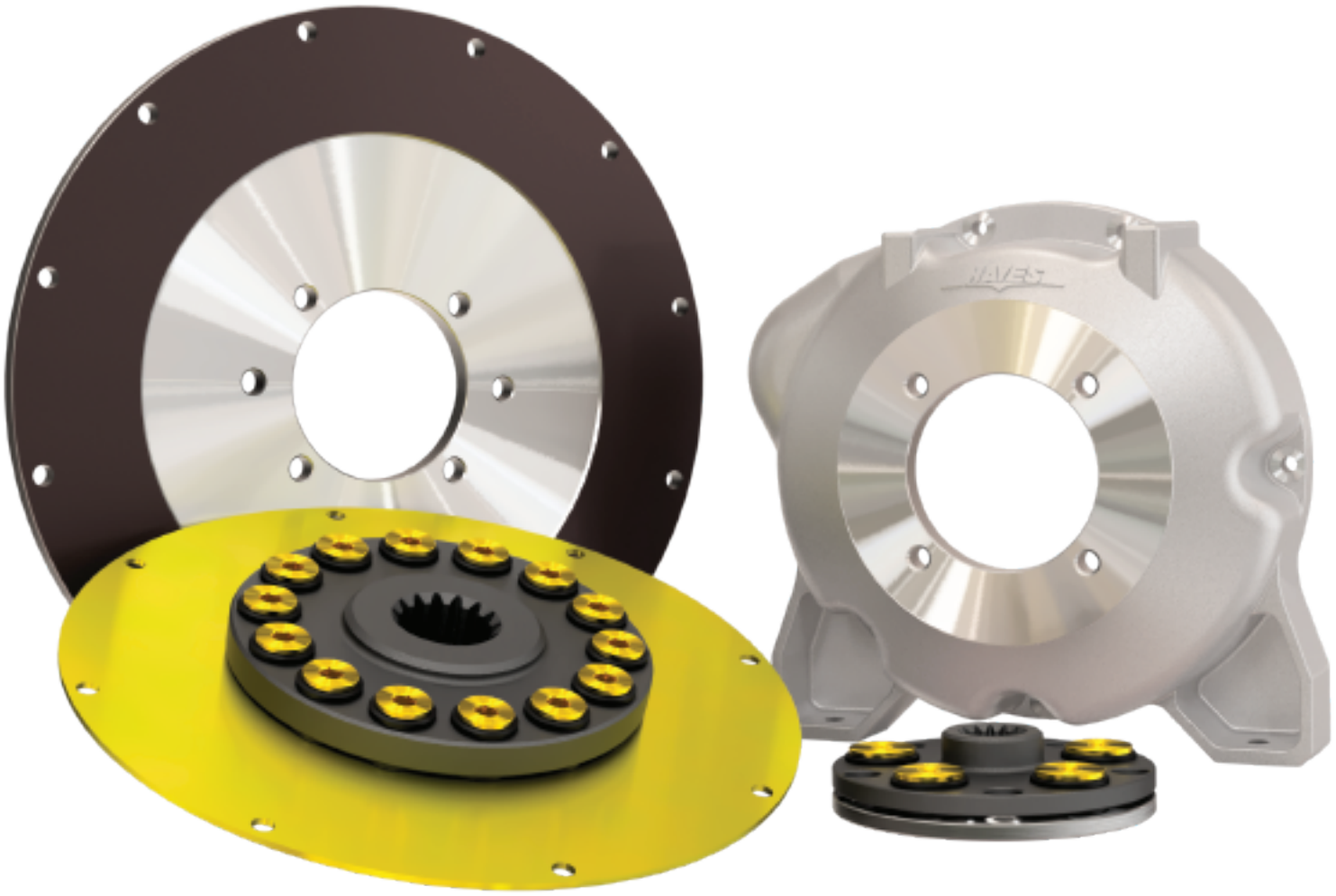
Logistics Assistance:

We ship products worldwide and assist with scheduling shipments to meet your timeline and your budget.

Warranty Information:

For warranty information please visit:
www.hayescouplings.com/pdf/warranty.pdf

HAYES ORIGINAL FLYWHEEL COUPLINGS



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POWER TRANSMISSION PRODUCTS

Original Flywheel Couplings

There are thousands of Hayes Original Flywheel Couplings in service throughout the world. They are used in gas and tough diesel engine applications where torsional vibration occurs. Our flexible neoprene elements absorb vibration and reduce shock loads, while providing a steady dampening effect.

Hayes couplings take up very little space while transmitting a surprising amount of torque. They're available with a wide variety of spline and bores & keys that come ready to bolt to your flywheel. The splines do not lock onto the shaft in order to allow for any axial movement. This is similar to a drive shaft assembly in automotive applications.

All components have been designed for maximum life (when operated at normal engine speeds, torque, alignment, and appropriately serviced). Please call your local distributor or our factory for assistance.

Design Characteristics:

Steel Yellow Zinc (Trivalent by 1-1-07) Flywheel Plate
- Sturdy, steel plate for continuous load support
- Yellow Zinc (Trivalent by 1-1-07) plating to protect against corrosive wear

Drive Hub
- Precision machined for consistent quality
- Heat-treated splines to prevent premature shaft wear
- Two set screws for clamping bore and key applications
- Large driving surfaces for easy installation and longer drive life
- Splined and bore and key options for your specific applications
- Multiple hub lengths allow for easy installation in any standard SAE or non-standard application

Features and Advantages:
- Absorbs vibration and shock loads to optimize the life of your pump components
- Provides a steady dampening effect under load
- Rugged steel construction
- Eliminates human error with our easy, one-piece design (perfect for a production environment)!
- Operating temperatures: -40 to +220 F
- Various series for standard SAE flywheels and non-standard flywheels (including engine housings)
- Competitively priced and normally in stock
- Spline lubrication including the coupling assembly

Applications:
- Our one-piece coupling is used on off-highway construction equipment
- Aerial lifts, bucket loaders, skid-steer loaders, excavators, sweepers, wheeled loaders, and more.
- Consult factory for applications not listed

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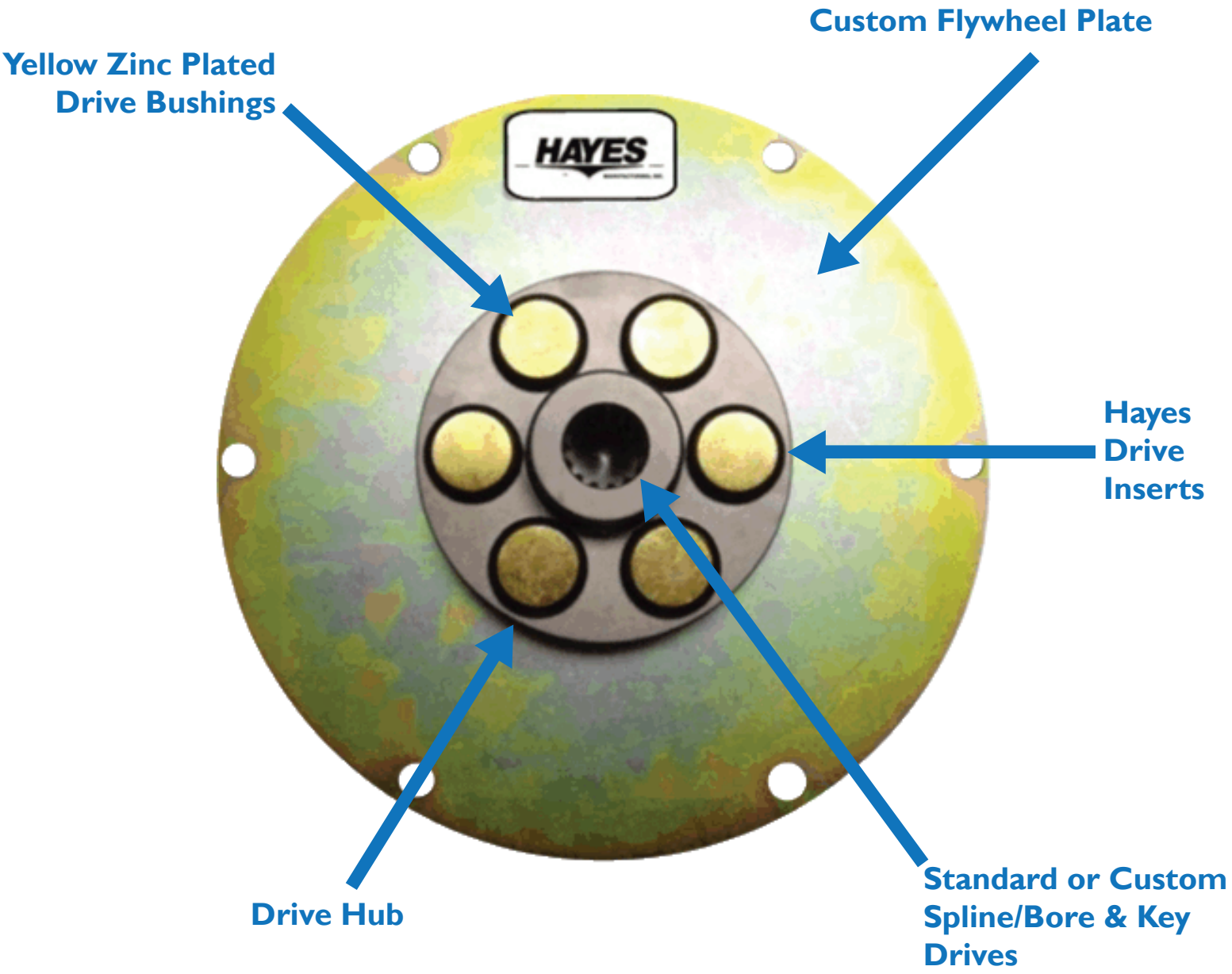

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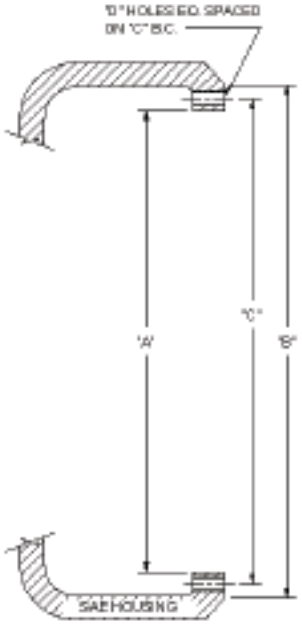
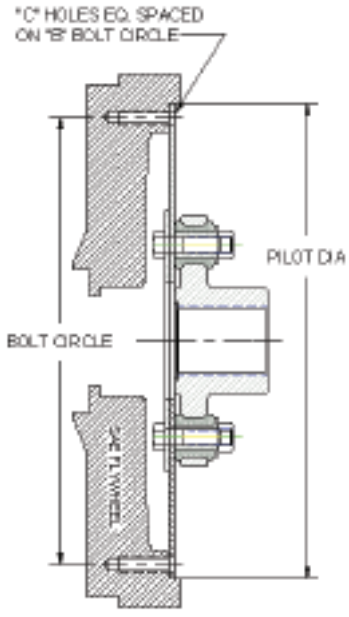
POWER TRANSMISSION PRODUCTS

Standard SAE Flywheel Coupling and Pump Mount Information



HAYES SAE PUMP MOUNTING PLATE DIMENSIONS						
HOUSING SIZE	"A" PILOT	"B" O.D.	"C" B.C.	PLATE THICKNESS	"D" MOUNTING PLATE HOLES	
					# OF HOLES	SIZE
1	20.125	21.750	20.875	1" OR 5/8"	12	31/64
2	17.625	19.250	18.375	1" OR 5/8"	12	27/64
3	16.125	17.750	16.875	5/8"	12	27/64
4	14.250	15.880	15.000	5/8"	12	27/64
5	12.375	14.000	13.130	5/8"	8	27/64
6	10.500	12.120	11.250	5/8"	8	27/64



HAYES SAE FLYWHEEL PLATE DIMENSIONS				
SAE FLYWHEEL SIZE J620	"A" O.D.	"B" B.C.	# OF HOLES	"C" HOLE SIZE
6-1/2	8.499	7.875	6	0.343
7-1/2	9.499	8.750	8	0.343
8	10.374	9.625	6	0.406
10	12.374	11.625	8	0.406
11-1/2	13.874	13.125	8	0.406
14	18.375	17.250	8	0.531
16	20.375	19.250	8	0.531

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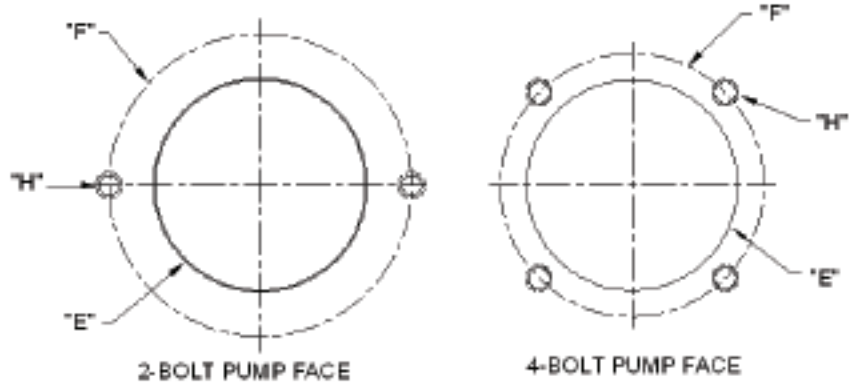
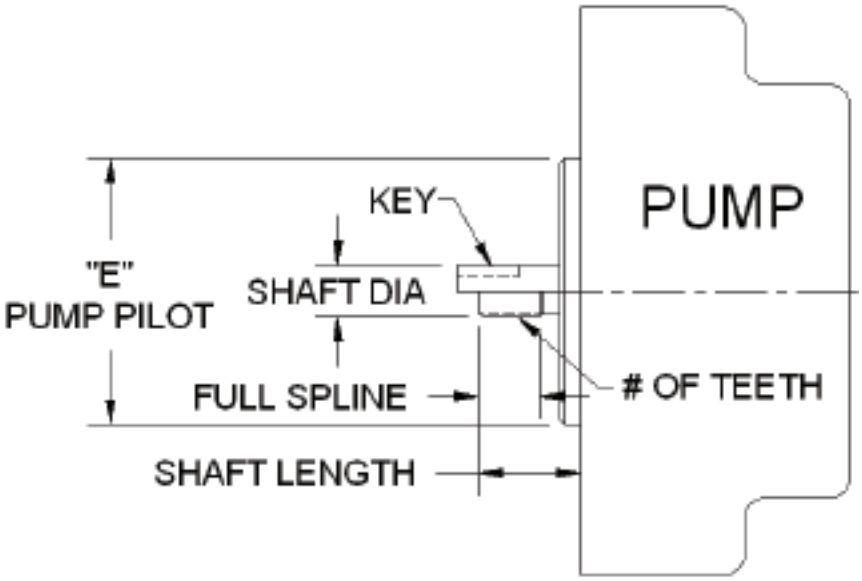
Standard SAE Pump Information





PUMP MOUNT FLANGE & SHAFT SIZE SAE J744C	2-BOLT PUMP				4-BOLT PUMP				SHAFT DIMENSIONS			
	"E" BORE DIA	"F" B.C.	"G" C'BORE DIA	"H" TAPPED HOLES	"E" BORE DIA	"F" B.C.	"G" C'BORE DIA	"H" TAPPED HOLES	SPLINE	SPLINE SHAFT LENGTH	BORE & KEY	BORE & KEY SHAFT LENGTH
A-A	2.000	3.250	7.000	5/16-18					9T 20/40	1.060	1/2"	1.060
A	3.250	4.187	7.000	3/8-16					9T 16/32	1.248	5/8"	1.248
									11T 16/32	1.490	3/4"	1.248
B	4.000	5.750	10.500	1/2-13	4.000	5.000	10.500	1/2-13	13T 16/32	1.622	7/8"	1.622
B-B									15T 16/32	1.810	1"	1.810
C	5.000	7.125	12.500	5/8-11	5.000	6.375	12.500	1/2-13	14T 12/24	2.185	1-1/4"	2.185
C-C									17T 12/24	2.435	1-1/2"	2.435
D	6.000	9.000	14.000	3/4-10	6.000	9.000	14.000	3/4-10	13T 8/16	2.935	1-3/4"	2.935
E	6.500	12.500	16.000	1"-8	6.500	12.500	16.000	3/4-10	13T 8/16	2.935	1-3/4"	2.935
F	7.000	13.781	18.000	1"-8	7.000	13.781	18.000	1"-8	15T 8/16	3.435	NONE	NONE

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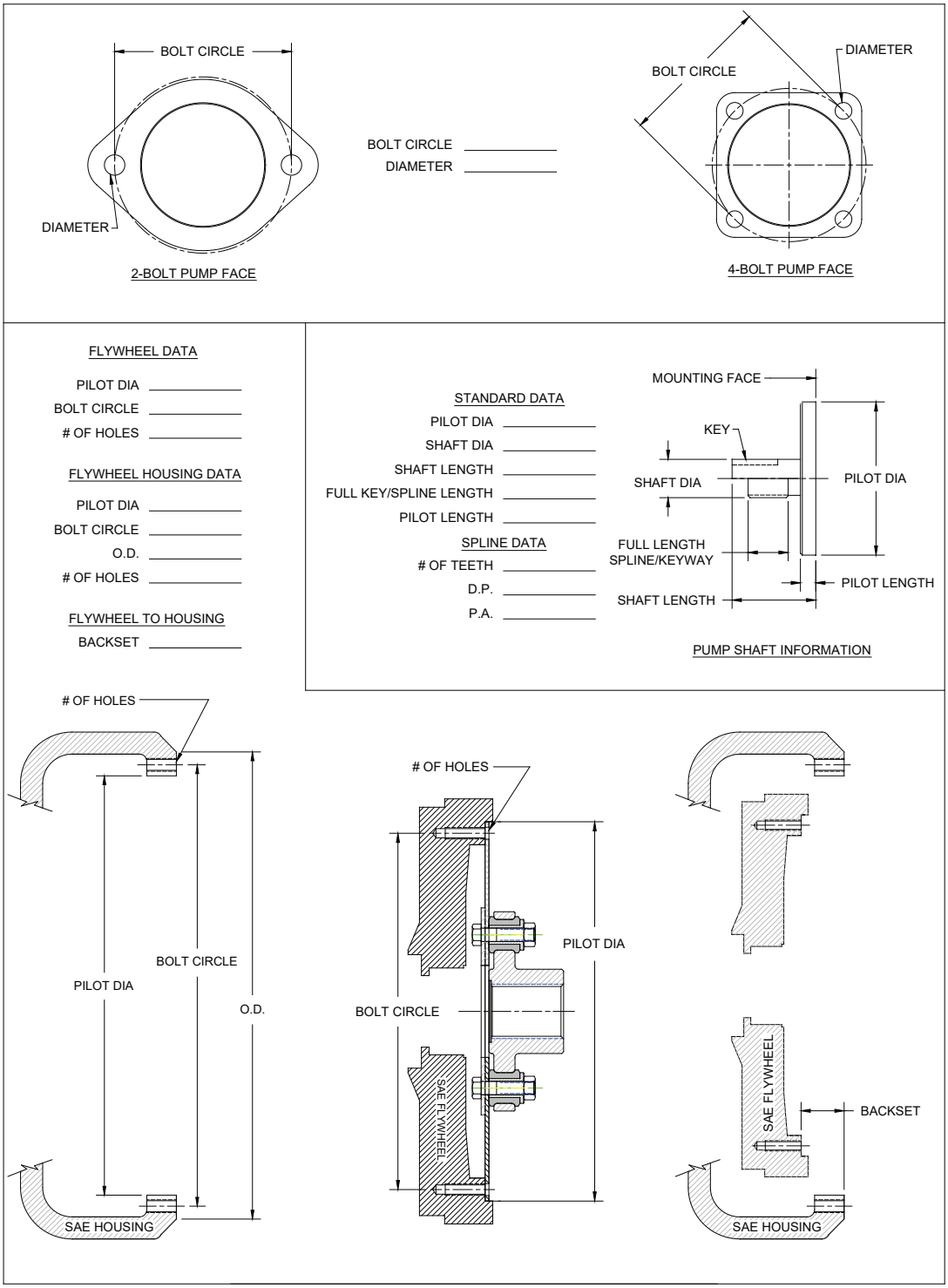
Easy fill in the blank coupling specification (Just fill in then email or fax)

Name:_____ Company:_____

Phone:_____ Email:_____



HEX-FLX
FLYWHEEL COUPLINGS

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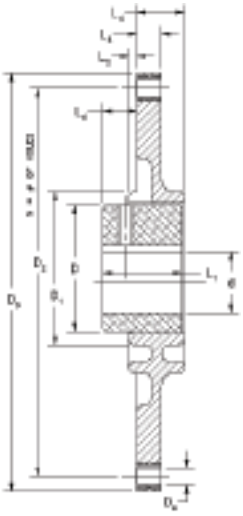
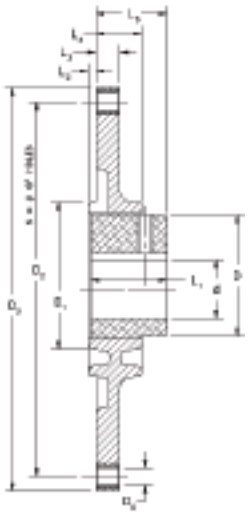
POWER TRANSMISSION PRODUCTS

2-Piece HEX-FLX Couplings

- High torsional stiffness for operation below critical speeds
- Operating temperatures: -40 to +300 F
- Light and compact with long service life
- Handles high shock loads
- Easy, two-piece blind mounting
- Customizable, sintered hub lengths
- Various series for standard SAE flywheels
- Secure locking system to eliminate fretting
- Economically priced and usually in stock

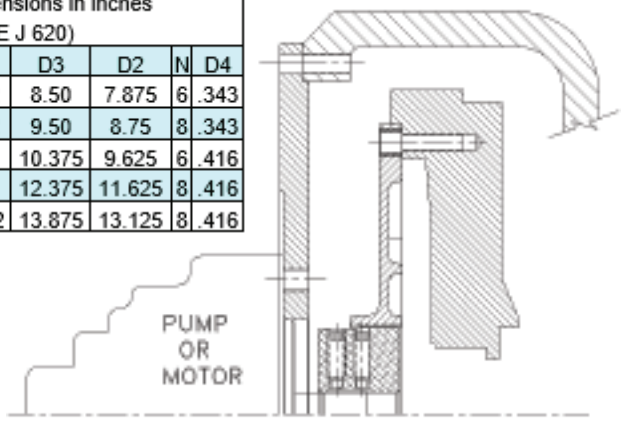


Short Mounting



Standard Mounting

Flange Dimensions in inches (SAE J 620)					
Part Number	Size	D3	D2	N	D4
B-065	6-1/2	8.50	7.875	6	.343
C-075	7-1/2	9.50	8.75	8	.343
C-080	8	10.375	9.625	6	.416
C-010	10	12.375	11.625	8	.416
DT-115	11-1/2	13.875	13.125	8	.416



IMPORTANT:
For proper assembly instructions, please refer to assembly drawings provided by Hayes. The mounting instructions provided on the assembly drawing will ensure the hub is properly located and clamped to pump or motor shaft.
(torque wrench required)

Coupling Dimensional Information (English)

Size	Finish Bore		Dimensions (inches)								Dimension to SAE					Optimal Hub
	Max	Min	D	D1	L1	L2	L3	L4	L5	L6	6-1/2	7-1/2	8	10	11-1/2	Location within
HB1	1.375	.588	2.815	3.189	1.13	.16	.50	.96	1.82	.217	•					0.04
HB2	1.375	.588	2.815	3.189	1.35	.16	.50	.96	1.24	.437	•					0.04
HB3	1.375	.588	2.815	3.189	1.60	.16	.50	.96	1.49	.687	•					0.04
HB4	1.375	.588	2.815	3.189	1.90	.16	.50	.96	1.79	.987	•					0.04
HC1	2.0	.588	2.522	4.198	1.33	.16	.50	.96	1.22	.412		•				0.04
HC1	2.0	.588	2.522	4.198	1.33	0	.50	1.13	1.38	.257			•	•		0.04
HC2	2.0	.588	2.522	4.198	1.60	.16	.50	.96	1.48	.687		•				0.04
HC2	2.0	.588	2.522	4.198	1.60	0	.50	1.13	1.65	.527			•	•		0.04
HC3	2.0	.588	2.522	4.198	1.75	.16	.50	.96	1.63	.837		•				0.04
HC3	2.0	.588	2.522	4.198	1.75	0	.50	1.13	1.90	.677			•	•		0.04
HC4	2.0	.588	2.522	4.198	2.13	.16	.50	.96	2.01	1.217		•				0.04
HC4	2.0	.588	2.522	4.198	2.13	0	.50	1.13	2.28	1.057			•	•		0.04
HC5	2.0	.588	2.522	4.198	2.38	.16	.50	.96	2.26	1.467		•				0.04
HC5	2.0	.588	2.522	4.198	2.38	0	.50	1.13	2.53	1.307			•	•		0.04
HC6	2.0	.588	2.522	4.198	2.44	.16	.50	.96	2.32	1.527		•				0.04
HC6	2.0	.588	2.522	4.198	2.44	0	.50	1.13	2.58	1.367			•	•		0.04
HDT1	3.0	.750	3.834	6.580	1.60	.335	.83	1.155	1.32	.485					•	0.04
HDT2	3.0	.750	3.834	6.580	2.00	.335	.83	1.155	1.72	.890					•	0.04
HDT3	3.0	.750	3.834	6.580	2.44	.335	.83	1.155	2.16	1.325					•	0.04

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Technical Coupling Data (English)

Technical Data for HEX-FLX Couplings - Torques / Weights / Mass Moments of Inertia										
Size	Torque T (ft.lbs)		General HP Rating	Weight / Mass Moment of inertia J		HEX-FLX Flanges according to SAE				
	$T_{nominal}$	T_{max}		Units	Std. Bore	6-1/2	7-1/2	8	10	11-1/2
HB1	225	365	20-75	[lbs]	1.53	.88	-	-	-	-
				[lb in^2]	1.79	7.89	-	-	-	-
HB2	225	365		[lbs]	1.76	.88	-	-	-	-
				[lb in^2]	2.03	7.89	-	-	-	-
HB3	225	365		[lbs]	2.03	.88	-	-	-	-
				[lb in^2]	2.3	7.89	-	-	-	-
HB4	225	365		[lbs]	2.13	.88	-	-	-	-
				[lb in^2]	2.50	7.89	-	-	-	-
HC1	585	1125	75-200	[lbs]	2.41	-	1.12	1.17	1.63	-
				[lb in^2]	3.83	-	13.4	15.67	31.01	-
HC2	585	1125		[lbs]	2.82	-	1.12	1.17	1.63	-
				[lb in^2]	4.41	-	13.4	15.67	31.01	-
HC3	585	1125		[lbs]	3.05	-	1.12	1.17	1.63	-
				[lb in^2]	4.72	-	13.4	15.67	31.01	-
HC4	585	1125		[lbs]	3.61	-	1.12	1.17	1.63	-
				[lb in^2]	5.5	-	13.4	15.67	31.01	-
HC5	585	1125		[lbs]	3.98	-	1.12	1.17	1.63	-
				[lb in^2]	6.01	-	13.4	15.67	31.01	-
HC6	585	1125		[lbs]	4.23	-	1.12	1.17	1.63	-
				[lb in^2]	6.37	-	13.4	15.67	31.01	-
HDT1	1300	3300	200-600	[lbs]	7.88	-	-	-	-	2.93
				[lb in^2]	30.25	-	-	-	-	74.93
HDT2	1300	3300		[lbs]	9.27	-	-	-	-	2.93
				[lb in^2]	35.31	-	-	-	-	74.93
HDT3	1300	3300		[lbs]	10.05	-	-	-	-	2.93
				[lb in^2]	40.09	-	-	-	-	74.93

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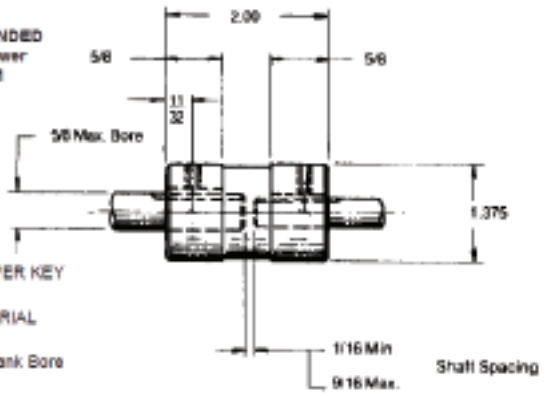
Hayes Jaw Couplings

This simple, three piece, quality built, flexible coupling is generally used to connect an electric motor to a hydraulic pump or mechanical drive. The hubs are made of a strong, lightweight aluminum alloy. The bodies and lugs are precision machined on CNC equipment to assure proper fit every time. Two set screws are standard. The solid wall of rubber in the insert eliminates metal-to-metal contact and provides a clean, quiet, troublefree performance when aligned properly. The unique steel locking insert is standard on all splined couplings in the 20 through 60 series. For the mobile market, taper lock splines are also available in the same series. Three insert choices are available. Neoprene, Hytrel* and Neoprene with a metal ring. Neoprene is used for light or steady loads. Hytrel*, for industrial application where torque, a variety of load conditions or chemicals exist. Neoprene with a metal ring for medium and heavy torque conditions and internal combustion engine applications. Installation requires only a straight edge and feeler gage to insure proper alignment. For longer insert life, misalignment should not exceed .005 parallel or 1° angular.

XO SERIES
5/8" Max. Bore

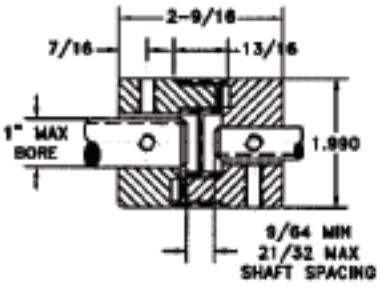
MAX. FRAME SIZE: 48
MAXIMUM RECOMMENDED TORQUE: .75 Horsepower at 1800 RPM



- Drive insert will accept a 1/2" shaft
- ONE SET SCREW OVER KEY This series only
- DRIVE INSERT MATERIAL Hytrel®
- APPROX. WEIGHT Blank Bore 4oz.

10 SERIES
1" Max. Bore

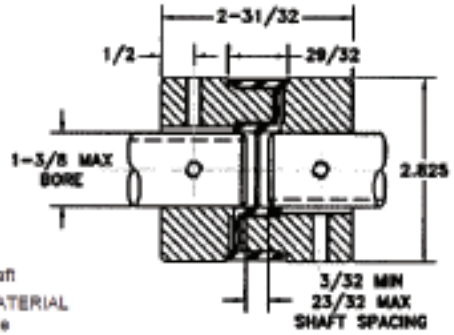
MAX. FRAME SIZE: 145T 184
MAXIMUM RECOMMENDED TORQUE: 2.7 Horsepower at 1800 RPM



- Drive insert will accept a 7/8" shaft
- DRIVE INSERT MATERIAL Hytrel® or Neoprene
- APPROX. WEIGHT Blank Bore 10 oz.

20 SERIES
1-3/8" Max. Bore

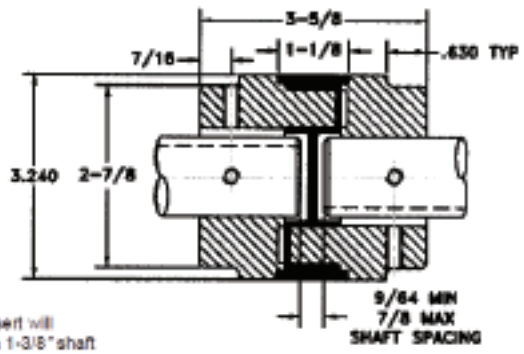
MAX. FRAME SIZE: 184T 215
MAXIMUM RECOMMENDED TORQUE: 5.1 Horsepower at 1800 RPM



- Drive insert will accept a 1-1/8" shaft
- DRIVE INSERT MATERIAL Hytrel® or Neoprene
- APPROX. WEIGHT Blank Bore 1-1/2 lbs.

30 SERIES
1-5/8" Max. Bore

MAX. FRAME SIZE: 215T 256U
MAXIMUM RECOMMENDED TORQUE: 10.2 Horsepower at 1800 RPM



- Drive insert will accept a 1-3/8" shaft
- DRIVE INSERT MATERIAL Hytrel® or Neoprene
- APPROX. WEIGHT Blank Bore 2-1/2 lbs.

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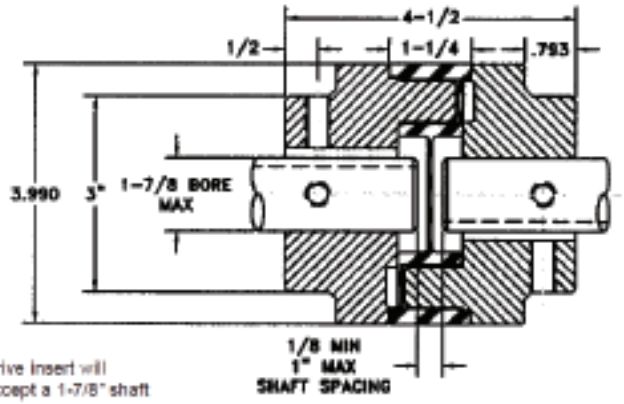
40 SERIES
1-7/8" Max. Bore

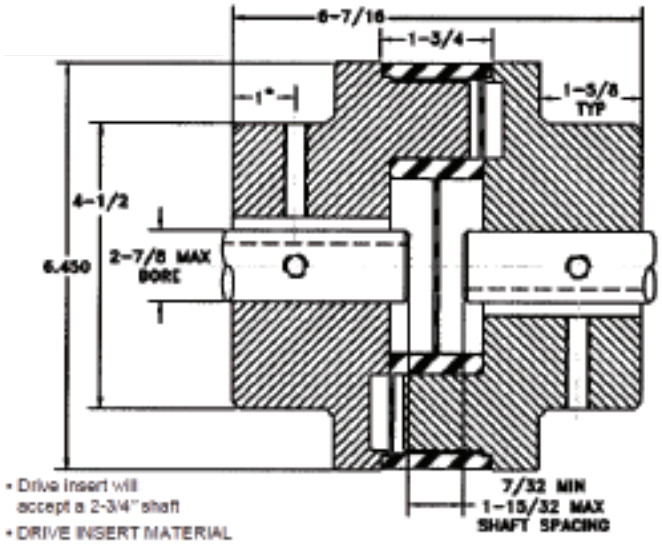
MAX. FRAME SIZE:
326 405TS 365U
MAXIMUM RECOMMENDED TORQUE: 30 Horsepower at 1800 RPM



- Drive insert will accept a 1-7/8" shaft
- DRIVE INSERT MATERIAL Hytrel® or Neoprene
- APPROX. WEIGHT Blank Bore 4 lbs.

60 SERIES
2-7/8" Max. Bore

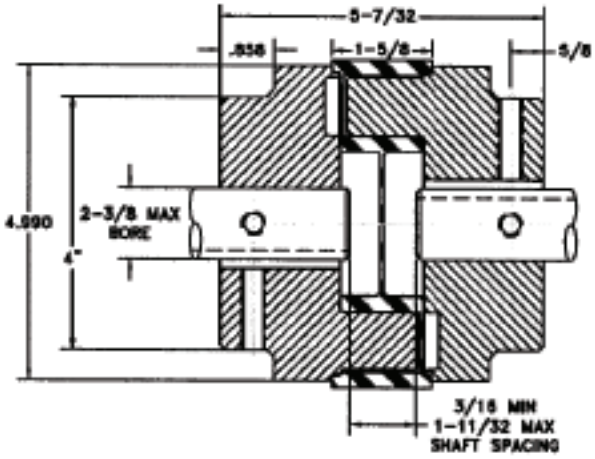
MAX. FRAME SIZE:
365T 445TS 405U 445US
MAXIMUM RECOMMENDED TORQUE: 114.1 Horsepower at 1800 RPM



- Drive insert will accept a 2-3/4" shaft
- DRIVE INSERT MATERIAL Hytrel® or Neoprene
- APPROX. WEIGHT Blank Bore 12 lbs.

50 SERIES
2-3/8" Max. Bore

MAX. FRAME SIZE:
326 405TS 365U
MAXIMUM RECOMMENDED TORQUE: 75 Horsepower at 1800 RPM



- Drive insert will accept a 2-1/4" shaft
- DRIVE INSERT MATERIAL Hytrel® or Neoprene
- APPROX. WEIGHT Blank Bore 8 lbs.

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STEEL LOCKING INSERT

STANDARD ON ALL SPLINED COUPLINGS 20 THROUGH 60 SERIES

For spline shaft applications, we use a split system and steel locking insert to provide more holding power and to protect splined shafts. It is commonly used on power units and hydrostatic drives.

INSTALLATION INSTRUCTIONS:

1. Tighten socket head cap screw for split locking system.
2. Tighten set set screw on large diameter to bring steel locking insert down against shaft.

TAPER LOCK SYSTEM

STANDARD ON ALL SPLINED COUPLINGS 20 THROUGH 60 SERIES

The Hayes taper lock bushings are competitively priced, strong, durable, and used primarily in the mobile market. The tapers are drawn together with socket head cap screws which are tightened from the lug side of the coupling, allowing you to get closer to the pump face. The steel taper lock bushing provides uniform pressure on the shaft to help prevent movement and the resulting damage.

NEOPRENE DRIVE INSERT

STANDARD ON ALL SPLINED COUPLINGS 20 THROUGH 60 SERIES

For spline shaft applications, we use a split system and steel locking insert to provide more holding power and to protect splined shafts. It is commonly used on power units and hydrostatic drives.

HYTREL DRIVE INSERT

Designed for INDUSTRIAL applications where torque and a variety of load conditions exist. It also has good chemical and abrasion resistance. Temperature range -65°F to +250°F (-54°C to +121° C).

METAL RING

For Neoprene Insert ONLY

A Metal Ring is recommended (only for neoprene inserts) for medium and heavy torque conditions, as well as internal combustion engine applications. The Ring slips over the insert to contain the rubber and increases load capacity. May be used in some cases to allow over size bores in next smaller series coupling.

Consult factory for more information.

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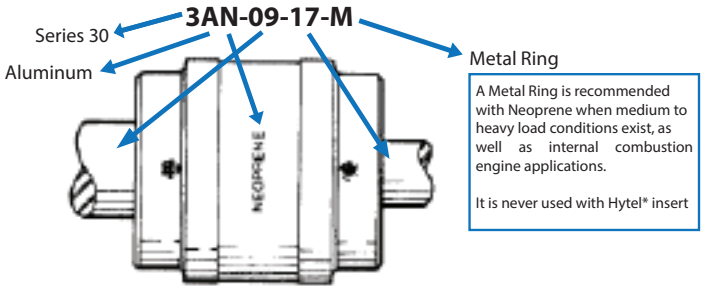
TO ORDER ANY SERIES HAYES COUPLING

1. Determine the H.P. of your prime mover.
2. Choose the correct series coupling based on your H.P.
3. Locate the option numbers on the chart at right that refer to your shaft requirements.
4. Using your option numbers, proceed per the example below to find your part number.



A Metal Ring is recommended with Neoprene when medium to heavy load conditions exist, as well as internal combustion engine applications.

It is never used with Hytel* insert

TO ORDER COMPLETE COUPLINGS

- **3** ← The first figure is the first digit of the series No. (X0 THRU 60 Series)
- 3**A** ← The second figure defines Coupling Material "A" for Aluminum or "S" for Steel (Special)
- 3A**H** ← The third figure denotes Drive Insert Material "N" for Neoprene or "H" for Hytrel*
- 3AH-**17** ← 4th and 5th figures show Bore Option on One Half Coupling
- 3AH-17-**09** ← 6th and 7th figures show Bore Option of Second Half Coupling
- 3AH-17-09-**M** ← 8th figure is used only when ordering a Metal Ring

TO ORDER A HALF COUPLING ONLY

- **1** ← The first figure is the first digit of the series No. (X0 THRU 60 Series)
- 1**A** ← The second figure defines Coupling Material "A" for Aluminum or "S" for Steel (Special)
- 1A**0** ← "0" is inserted as the third figure
- 1A0-**07** ← 4th and 5th figures show Bore Option on the Half Coupling
- 1A0-07-**00** ← "00" is inserted as the 6th and 7th figures

TO ORDER A DRIVE INSERT AND METAL RING

- **6** ← The first figure is the first digit of the series No. (X0 THRU 60 Series)
- 6**0** ← "0" is inserted as the second figure
- 60**N** ← The third figure denotes Drive Insert Material "N" for Neoprene or "H" for Hytrel*
- 60N-**00** ← "00" is inserted as the 4th and 5th figures
- 60N-00-**00** ← "00" is inserted as the 6th and 7th figures
- 60N-00-00-**M** ← Insert "M" for Metal Ring

TO ORDER A TAPER LOCK BUSHING

- 5A0-92**T**-00 ← Add a "T" after the spline option

BORE TOLERANCES	
Bore (in.)	Tolerance
Up to 1	+.0003 to .0010
1-1/16 to 2	+.0005 to .0015
2-1/16 to 2- 7/8	+.0010 to .0020

BORE OPTIONS

OPTION NO.	SIZE				OPTION NO.	SIZE			
-01	3/8	Bore,	1/16	Key	-51				
-02	7/16	Bore,	3/32	Key	-52				
-03	1/2	Bore,	1/8	Key	-53				
-04	9/16	Bore,	1/8	Key	-54	15 mm	Bore,	5 mm	Key
-05	5/8	Bore,	3/16	Key	-55				
-06	11/16	Bore,	3/16	Key	-56	17 mm	Bore,	5 mm	Key
-07	3/4	Bore,	3/16	Key	-57	18 mm	Bore,	6 mm	Key
-08	13/16	Bore,	3/16	Key	-58	19 mm	Bore,	6 mm	Key
-09	7/8	Bore,	3/16	Key	-59	20 mm	Bore,	6 mm	Key
-10	15/16	Bore,	1/4	Key	-60	22 mm	Bore,	6 mm	Key
-11	1	Bore,	1/4	Key	-61	24 mm	Bore,	8 mm	Key
-12	1- 1/16	Bore,	1/4	Key	-62	25 mm	Bore,	8 mm	Key
-13	1- 1/8	Bore,	1/4	Key	-63				
-14	1- 3/16	Bore,	1/4	Key	-64	28 mm	Bore,	8 mm	Key
-15	1- 1/4	Bore,	1/4	Key	-65	30 mm	Bore,	8 mm	Key
-16	1- 5/16	Bore,	5/16	Key	-66	32 mm	Bore,	10 mm	Key
-17	1- 3/8	Bore,	5/16	Key	-67	33 mm	Bore,	10 mm	Key
-18	1- 7/16	Bore,	3/8	Key	-68	35 mm	Bore,	10 mm	Key
-19	1- 1/2	Bore,	3/8	Key	-69				
-20	1- 9/16	Bore,	3/8	Key	-70	38 mm	Bore,	10 mm	Key
-21	1- 5/8	Bore,	3/8	Key	-71	40 mm	Bore,	12 mm	Key
-22	1- 11/16	Bore,	3/8	Key	-72	42 mm	Bore,	12 mm	Key
-23	1- 3/4	Bore,	3/8	Key	-73	45 mm	Bore,	14 mm	Key
-24	1- 13/16	Bore,	1/2	Key	-74				
-25	1- 7/8	Bore,	1/2	Key	-75	48 mm	Bore,	14 mm	Key
-26	1- 15/16	Bore,	1/2	Key	-76	50 mm	Bore,	14 mm	Key
-27	2	Bore,	1/2	Key	-77	55 mm	Bore,	16 mm	Key
-28	2 1/16	Bore,	1/2	Key	-78	60 mm	Bore,	18 mm	Key
-29	2 1/8	Bore,	1/2	Key	-79	65 mm	Bore,	18 mm	Key
-30	2 3/16	Bore,	1/2	Key	-80				
-31	2 1/4	Bore,	1/2	Key	-81				
-32	2 5/16	Bore,	5/8	Key	-82				
-33	2 3/8	Bore,	5/8	Key	-83				
-34	2 7/16	Bore,	5/8	Key	-84				
-35	2- 1/2	Bore,	5/8	Key		SPLINED COUPLING SIZES			
-36	2- 5/8	Bore,	5/8	Key		TEETH	PITCH	P.A.	MAJOR O.D. / MIN. SERIES
-37	2- 3/4	Bore,	5/8	Key					
	SEMI-STANDARD				-85	19	16/32	30	1.276 / 30
-38	1/2	Bore,	3/32	Key	-86	17	12/24	30	1.580 / 40
-39	5/8	Bore,	5/32	Key	-87	11	16/32	30	.770 / 20
-40	3/4	Bore,	1/8	Key	-88	9	16/32	30	.640 / 20
-41	7/8	Bore,	1/4	Key	-89	15	16/32	30	1.000 / 20
-42	1	Bore,	3/16	Key	-90	13	8/16	30	1.750 / 40
-43	1- 1/4	Bore,	5/16	Key	-91	13	16/32	30	.885 / All
-44	1- 3/8	Bore,	3/8	Key	-92	14	12/24	30	1.250 / 20
-45	1- 1/2	Bore,	5/16	Key	-93	15	8/16	30	2.000 / 50
-46	1- 3/4	Bore,	7/16	Key	-94	21	16/32	30	1.375 / 30
-47	.5295	Bore,	1/8	Key	-95	23	16/32	30	1.525 / 40
-48					-96	27	16/32	30	1.750 / 40
-49	2- 7/8	Bore,	3/4	Key	-97				
-50	Blank	Bore,			-98	20	16/32	30	1.320 / 30

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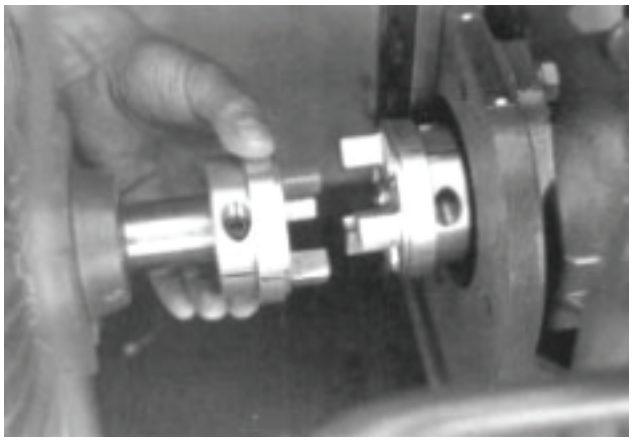
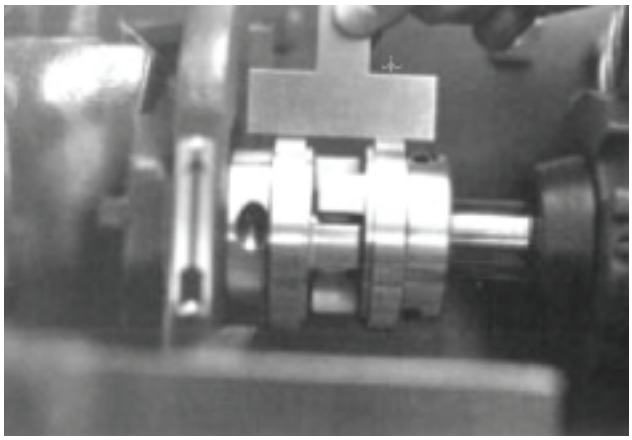
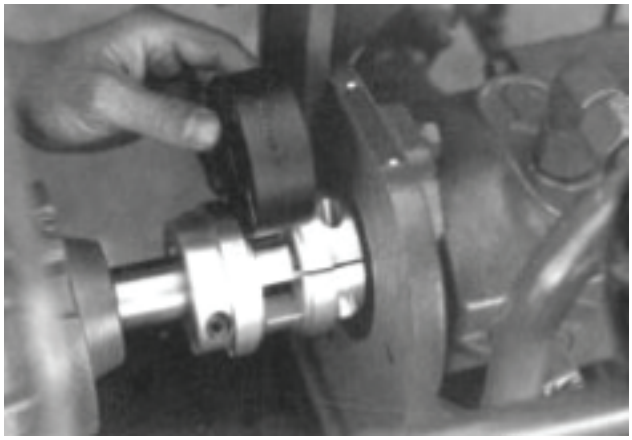


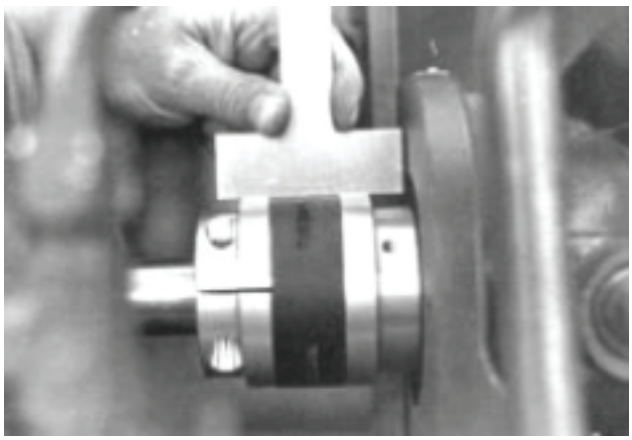
Install couplings on pump and motor shafts.



Misalignment is easily detected with a straight edge and using a .005 feeler gage on top and side of coupling will give ample alignment.



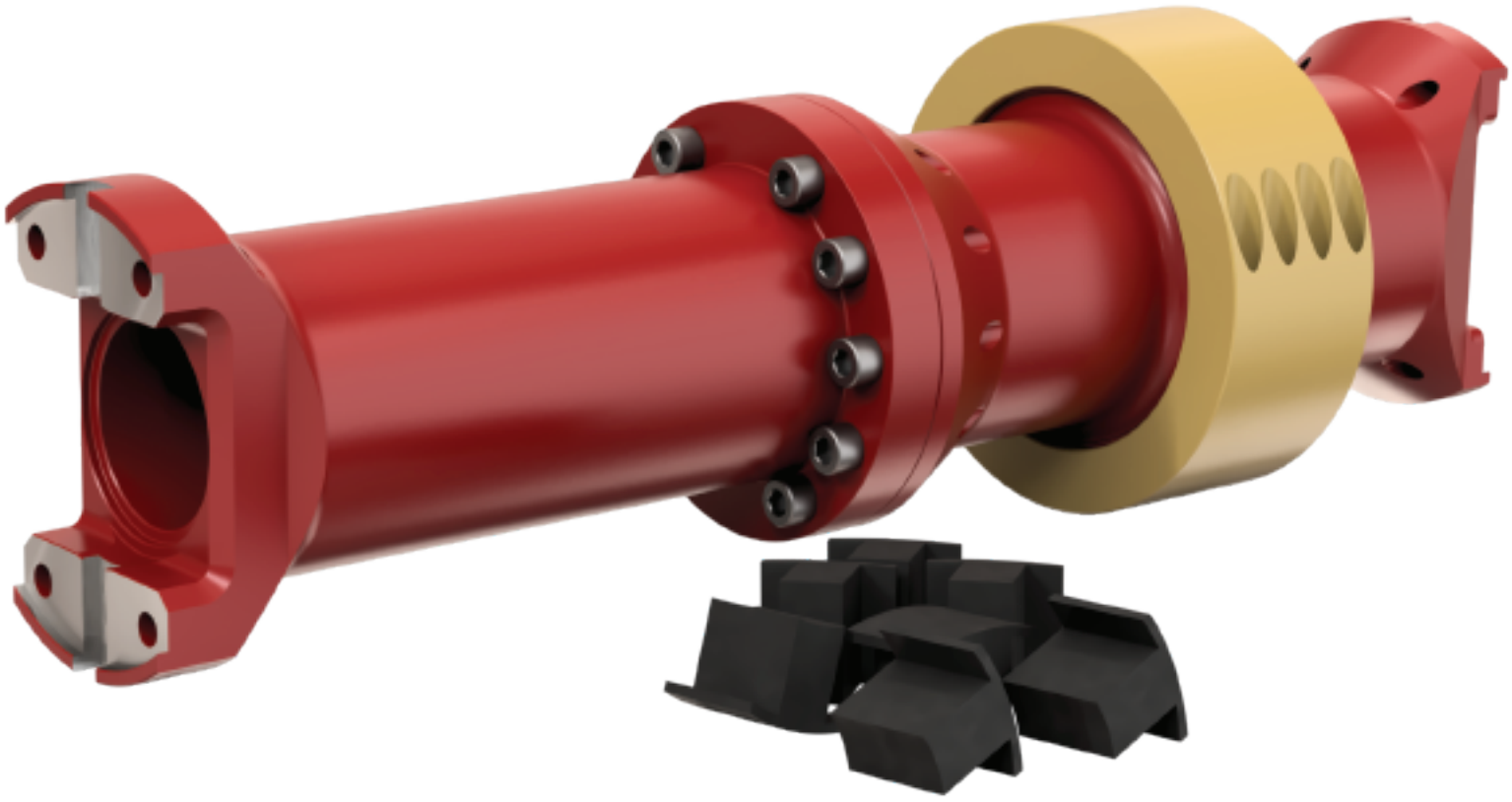
Use drive insert between dirt seals for gage to determine distance between coupling halves, leaving approximately 1/32 clearance per side. (Insert should not run in compressed state.)



Recheck alignment with straight edge and tighten. (Coupling can also be aligned with insert installed.) No more than 1° maximum angular misalignment.

- Please remember that if excess vibration or misalignment are present in your system it will cause the rubber insert to wear rapidly.
- The rubber element is the safety factor in your system. It could protect the system from serious damage caused by either of these two conditions.
- We strongly recommend accurate alignment and minimum vibration when using a flexible coupling in order to obtain maximum life.

MAGNUM DRIVE SHAFT



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Magnum Drive Shafts

Greasing Of U-Joints:

Grease U-Joints with a premium lithium extreme pressure (EP) grease every 250 hours.

Drive Insert Replacement Schedule:

Rubber drive inserts will vary in life from application to application. When users installs and starts running the Magnum Drive Shaft they will need to follow a strict maintenance schedule. This schedule will ensure that the inserts will not degrade to the point where the drive lugs start driving metal to metal. Once the shaft starts driving metal to metal it will need to be replaced with a complete new shaft, it will not be able to be rebuilt.

Determining Replacement Schedule:

Run for one month - remove inserts and return to Hayes Mfg. for inspection
If OK, run shaft for 2 months - remove inserts and return to Hayes Mfg. for inspection
If OK, run for 3 months and return to Hayes Mfg. for inspection
If OK,keep repeating this schedule, adding 1 month each time, until you are told by Hayes Mfg that you have reached the point of needing to replace inserts.
*Note that only 5 of the 10 inserts should be worn, so you need to check the inserts that are actually doing the driving.

If you are running multiple Hayes drivelines you will only need to pull one Magnum Shaft from service to inspect. That way you will only need to wait 1 more month to inspect the 2-month runtime, and so on. If you do not reach the replacement interval and you have inspected all Magnum Shafts wait an additional month and then inspect the first inspected shaft again. Repeat the original process until replacement schedule is determined.

Caution: At any time if your RPM will not hold constant during test, the inserts have prematurely worn. They will need to be removed and replaced immediately.

Complete Rebuild Schedule:

The customer shall also determine a complete rebuild schedule. After drive shaft has run for 1 year, remove from dyno and inspect u-joints and internal shaft bearings. If bearing have very little play you will be able to re-assemble shaft and continue to run. If you would like to replace the bearings while the shaft is disassembled you may do so, especially if you have other dynos running the same shaft setup. Run shaft for another year before repeating process. Once you notice the bearings getting worn (sloppy or not smooth running) you will want to make note of the service time, and use that as your complete rebuild interval.

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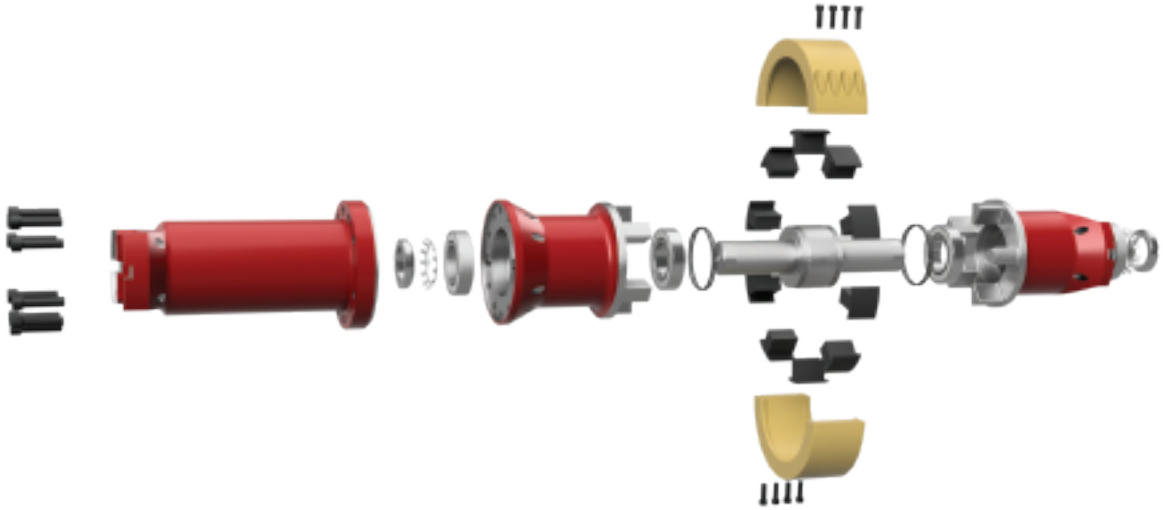
Magnum Drive Shafts



If inserts need to be replaced you will want to order the Item Below:

Part Number 720615 Qty: 1 (1 Set = 10 drive inserts)

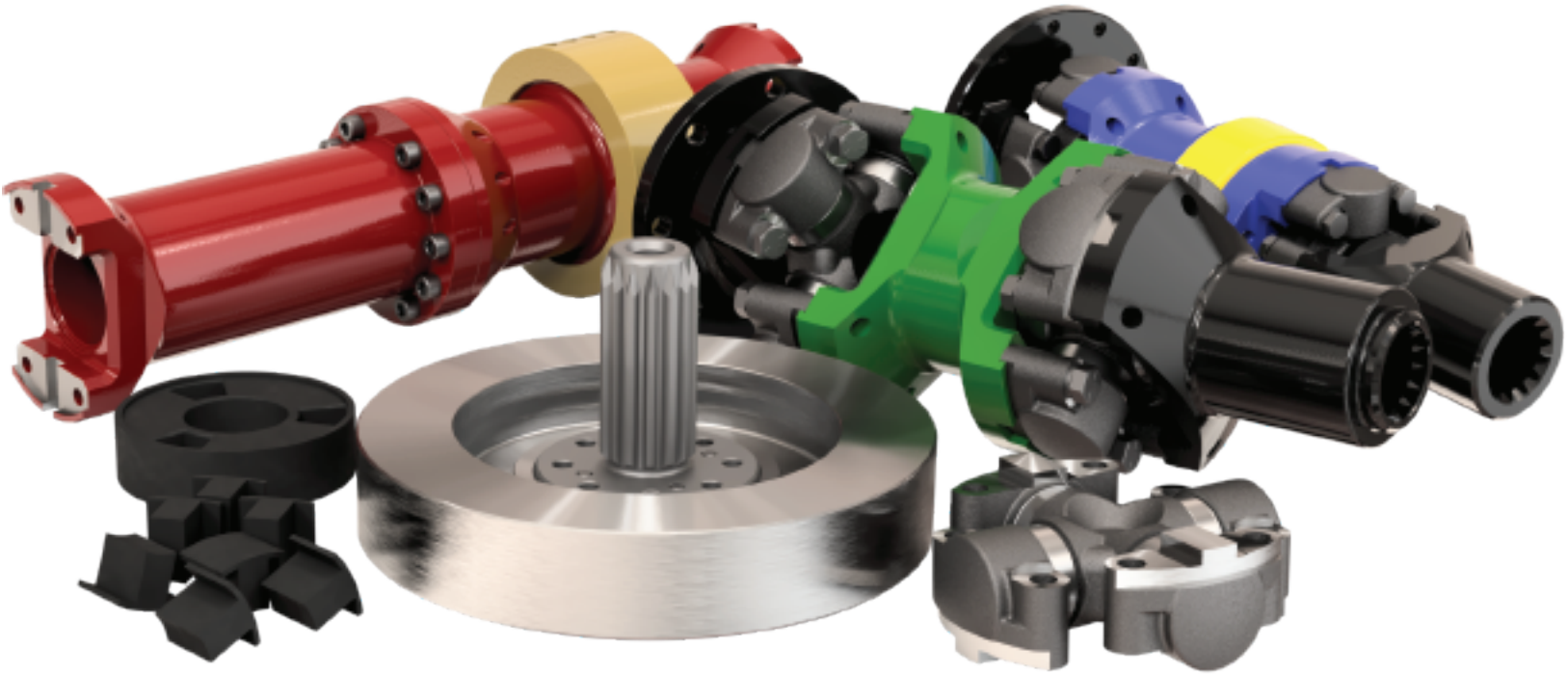
The following components will last much longer than the inserts. What you can do to check the integrity of the drive shaft is while the inserts are removed pull and push on the center of the drive shaft. If you feel movement then the bearings and following components should be changed before testing is continues. A complete rebuild consists of the following:

Part Number 568-152	**Qty: 4**	**(O-Ring)**
Part Number 210PP	**Qty: 4**	**(Bearings)**
Part Number W10	**Qty: 2**	**(Washer)**
Part Number N10	**Qty: 2**	**(Lock Nut)**
Part Number CP85WB-HWD	**Qty: 2**	**(U-Joint)**

Remember to **Grease U-Joints every 250 hours** (Do not over fill). Use high-pressure lithium grease. U-Joints should be check each time the inserts are changed to ensure they do not need to be replaced. The maintenance working on these cells should be able to tell the difference between a good and bad U-Joint.

Important: If there is any damage to the metal ring or other metal components a complete rebuild should be performed.

YELLOW JACKET DRIVE SHAFT



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Yellow Jacket Drive Shafts

Greasing Of U-Joints:

Grease U-Joints with a premium lithium extreme pressure (EP) grease every 250 hours.

Drive Insert Replacement Schedule:

Rubber drive inserts will vary in life from application to application. When users installs and start running the Yellow Jacket Drive Shaft they will need to follow a strict maintenance schedule. This schedule will ensure that the inserts will not degrade to the point where the drive lugs start driving metal to metal. Once the shaft starts driving metal to metal it will need to be replaced with a complete new shaft, it will not be able to be rebuilt.

Determining Replacement Schedule:

Run for one month - remove inserts and return to Hayes Mfg. for inspection
If OK, run shaft for 2 months - remove inserts and return to Hayes Mfg. for inspection
If OK, run for 3 months and return to Hayes Mfg. for inspection
If OK,keep repeating this schedule, adding 1 month each time, until you are told by Hayes Mfg that you have reached the point of needing to replace inserts.

If you are running multiple Hayes drivelines you will only need to pull one Yellow Jacket Shaft from service to inspect. That way you will only need to wait 1 more month to inspect the 2-month runtime, and so on. If you do not reach the replacement interval and you have inspected all Yellow Jacket Shafts wait an additional month and then inspect the first inspected shaft again. Repeat the original process until replacement schedule is determined.

Caution: At any time if your RPM will not hold constant during test, the inserts have prematurely worn. They will need to be removed and replaced immediately.

Complete Rebuild Schedule:

The customer shall also determine a complete rebuild schedule. After drive shaft has run for 1 year, remove from dyno and inspect u-joints and internal shaft bearings. If bearing have very little play you will be able to re-assemble shaft and continue to run. If you would like to replace the bearings while the shaft is disassembled you may do so, especially if you have other dynos running the same shaft setup. Run shaft for another year before repeating process. Once you notice the bearings getting worn (sloppy or not smooth running) you will want to make note of the service time, and use that as your complete rebuild interval.

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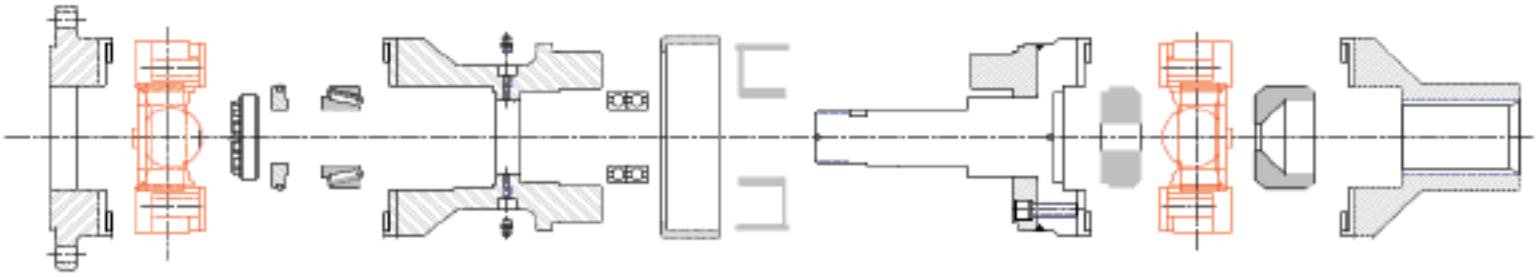
Yellow Jacket Drive Shafts



If inserts need to be replaced you will want to order the Item Below:

Part Number 720000-02 Qty: 1

The following components will last much longer than the inserts. What you can do to check the integrity of the drive shaft is while the inserts are removed pull and push on the center of the drive shaft. If you feel movement then the bearings and following components should be changed before testing is continues. A complete rebuild consists of the following:

Part Number 9110 KDD **Qty: 2 (Bearings)**

Part Number 33210 **Qty: 1** **(Tapered Bearing)**

Part Number AS-338 **Qty: 1 (O-Ring)**

Part Number CP85WB-HWD **Qty: 2 (U-Joint)**

Remember to **Grease U-Joints every 250 hours** (Do not over fill). Use high-pressure lithium grease. U-Joints should be check each time the inserts are changed to ensure they do not need to be replaced. The maintenance working on these cells should be able to tell the difference between a good and bad U-Joint.

Important: If there is any damage to the metal ring or other metal components a complete rebuild should be performed.

YOKE DRIVE FLYWHEEL COUPLINGS

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Yoke Flange Flywheel Couplings

We designed the Yoke Flange Coupling to assist a customer who had been using a competitor's coupling andhad ben dealing with multiple coupling failures. The Hayes Yoke Flange Coupling came to the rescue and solved their coupling failure nightmare! This is a Coupling you can count on for tough diesel applications!

Design Characteristics:

Steel Flywheel Plate

- The flywheel plate can be adjusted for specific inertia requirements.
- Manufactured from a steel burnout or custom forging (Depending on the application)
- Precision-machined for accurate balance.
- Secondary drive bolts can be added (in case of coupling failure - never been used)

Drive Hub

- Support bearing to centralize driving load
- Precision-machined for accurate balance
- Strongest and largest drive insert that Hayes manufactures
- Multiple yoke mounts available for your drive requirements
- Multiple hub lengths for easy installation in any standard SAE or non-standard application

Features and Advantages:

- Absorbs vibration and shock loads (lengthening the life of your pump or gear box components)
- Provides a steady dampening effect under load
- Designed for maximum life (when operated at normal engine speeds, torque and alignment)
- Rugged, steel construction
- Eliminates human error with our easy, one-piece design (perfect for a production environment)!
- Operating temperatures: -40 to +220 F
- Various series for standard SAE flywheels and non-standard flywheels (including engine housings)
- Competitively priced and normally in stock

Applications:

- This one-piece coupling is used on off-highway construction equipment
- Aerial lifts • Telehandlers • Railroad equipment • Hybrid vehicles
- Consult factory for applications not listed

CALL US TO DISCUSS YOUR SPECIFIC APPLICATION REQUIREMENTS

Hayes Manufacturing, Inc.
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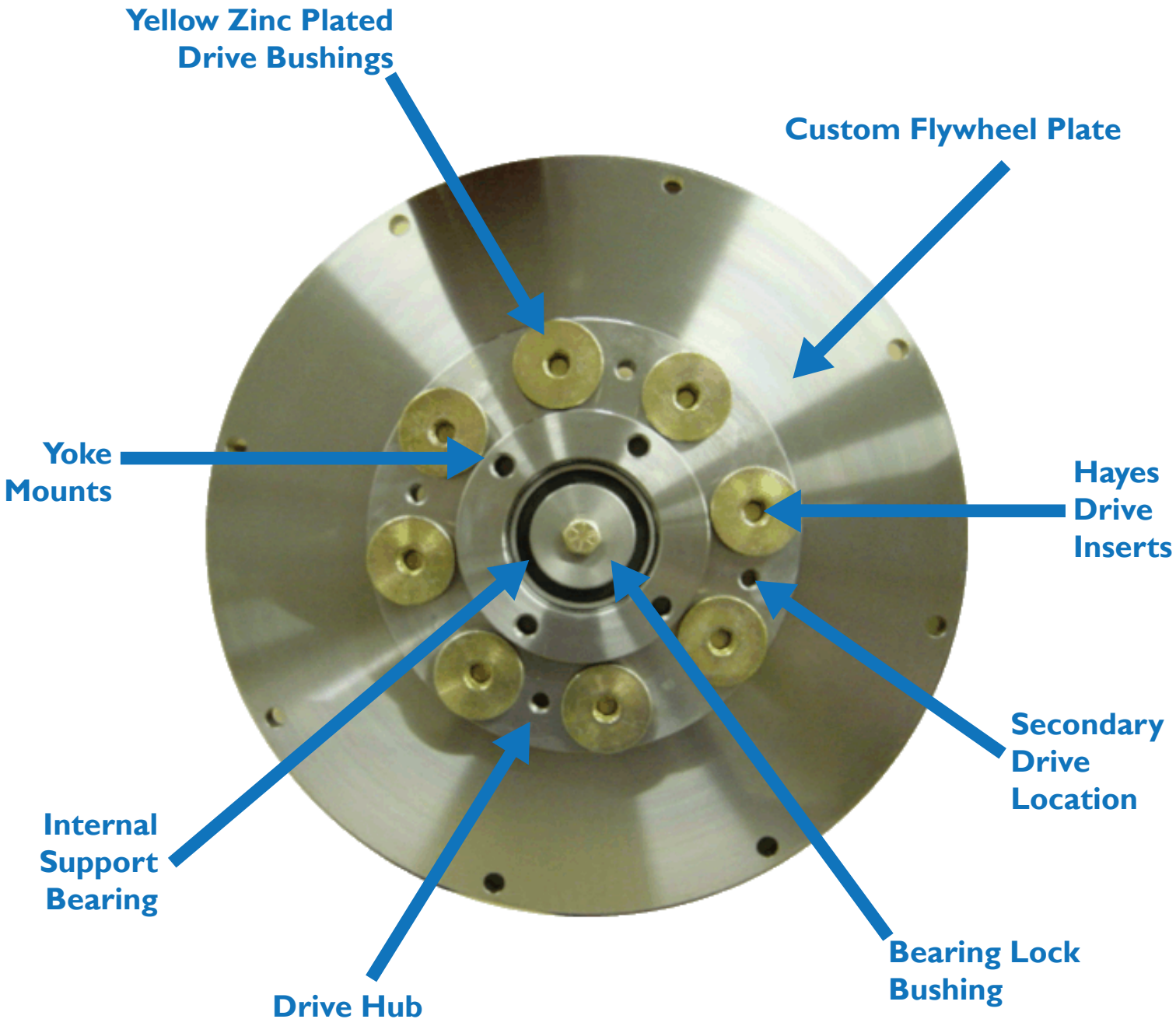
Fife Lake, MI 49633
Phone: 231-879-3372 | Fax: 231-879-4330
www.hayescouplings.com

HAYES
We've Got Connections

POWER TRANSMISSION PRODUCTS



Custom Application Description

These drives can be customized to fit your application needs. There are thousands of these couplings in service that have been running (without failure) on tough diesel applications. We also supply numerous cover plate options to protect the public from the spinning flywheel and coupling. Call the factory today with your specific application.