



FC-305160 Clutch – Bearing Mounted Extended Hub Clutch - Spline Drive 5 Inch Diameter

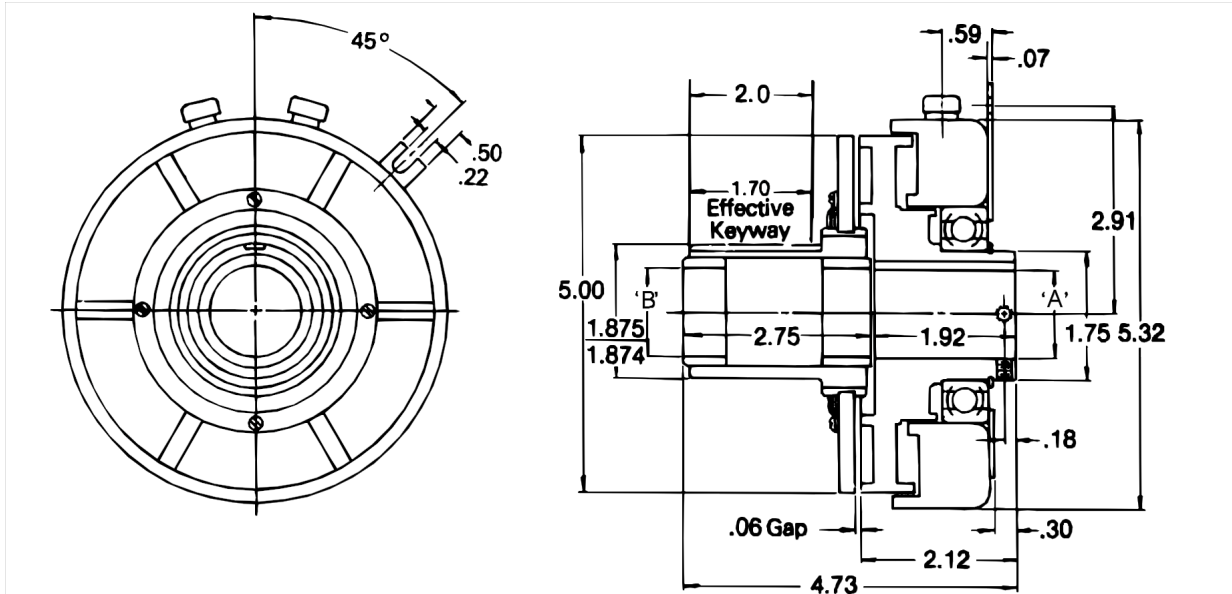
Product Function

Start-Coast, Power Applied Product: Couples two parallel shafts together when DC power is applied to Clutch field magnet.

Self-adjusting power applied Clutch.

<u>Contents</u>	<u>Page</u>
General Information	1
Dimensions	2
Parts	3
Alignment	3
Armature and Extended Hub Sub-Assembly	4
Extended Hub Assembly to Drive Media	4
Extended Hub / Drive Media to Shaft	4
Bearing Mounted Rotor Field Assembly to Shaft	5
Anti-Rotate Tab Assembly	5
Wiring	6
Burnishing – Run In	6

Model 305



Bore "B"	Keyway
1"	.375 x .187
1-1/4"	.375 x .125*
Bore "A"	Keyway
1"	.250 x .125
1-1/4"	.250 x .125

*Special Rectangular Key Supplied with Hub

Customer to supply set collar/retaining device to maintain axial position of extended hub on shaft.

Technical Data and Torque (In. Lb.)

Model No.	Wt. Lbs.	Static Torque in. lb.	Max. Speed RPM	Coil Voltage vdc	* Rated Current amps	RPM									
						0	300	600	900	1200	1500	1800	2400	3000	3600
305	4.5	684	3600	90	.40	684	624	564	516	468	420	384	324	288	252

* Rated Current for 90VDC and 1.65 amps at 24VDC.

Dynacorp – an Inertia Dynamics Product Line
 31 Industrial Park Road, New Hartford, CT 06057
 Toll-Free: 1-800-800-6445 • Main Phone: (860) 379-1252 • sales@idicb.com
 Customer Service Fax: (860) 379-1137 • Technical Support Fax: (860) 379-1197

Parts



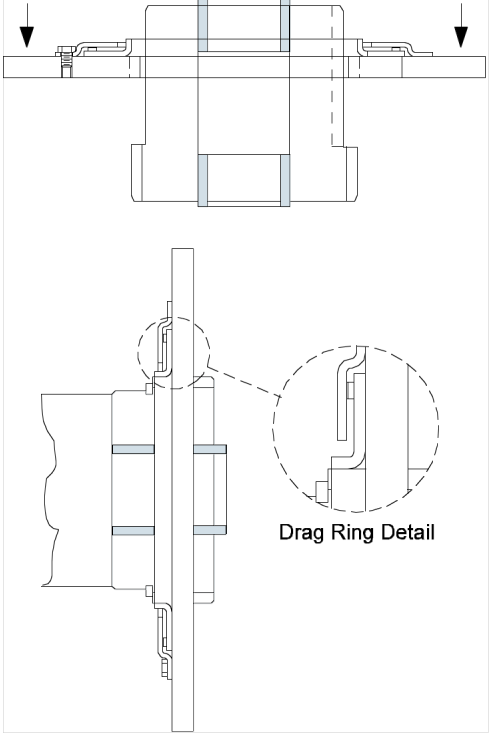
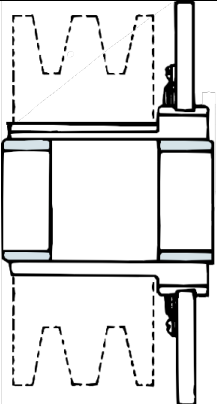
Item	Qty	Part Numbers	Description
1	1	305396-1	Armature Plate
A	1		Extended Armature Hub Splined
		305458-3	1 Bore
		305458-7	1-1/4 Bore
D	1		Bearing Mounted Rotor and Field
		305773-4	1 Bore, 24 Volt (14.5 Ohms, 1.65 Amps)
		305773-6	1-1/4 Bore, 24 Volt
		305774-4	1 Bore, 90 Volt (219 Ohms, .41 Amps)
		305774-6	1-1/4 Bore, 90 Volt

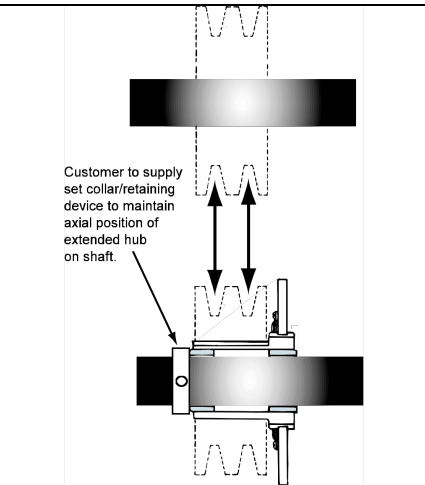
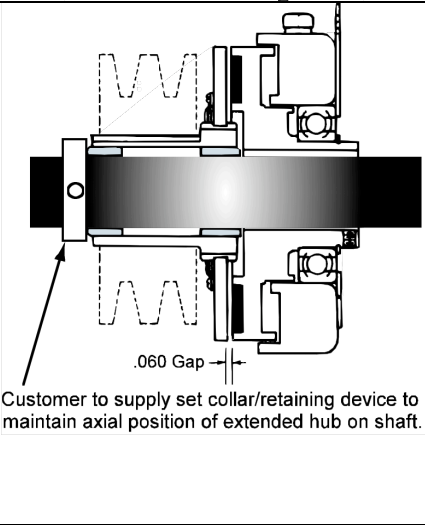
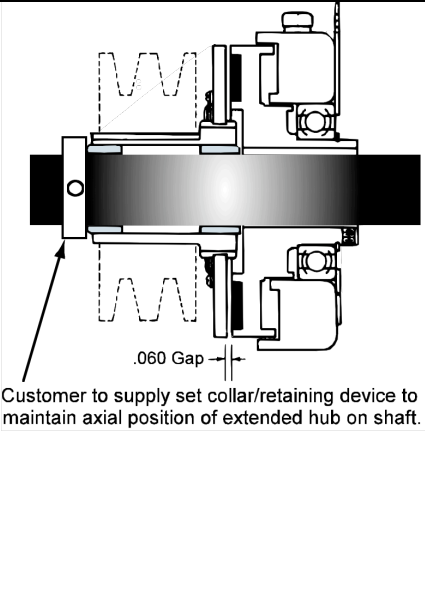
Alignment

This clutch is normally mounted on one shaft that will drive or be driven by a shaft that is parallel to it. If this is your application alignment is a function of your two shaft positions. Correct belt or chain alignment is required to reduce side loads to the clutch's extended hub.

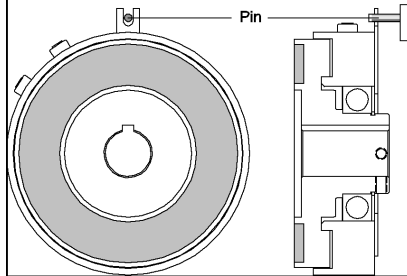
Dynacorp – an Inertia Dynamics Product Line
 31 Industrial Park Road, New Hartford, CT 06057
 Toll-Free: 1-800-800-6445 • Main Phone: (860) 379-1252 • sales@idicb.com
 Customer Service Fax: (860) 379-1137 • Technical Support Fax: (860) 379-1197

Assembly

Step	Description	
1	<p>Armature Plate and Splined Hub Sub-Assembly</p> <p>Items: 1 and A</p> <p>Support Splined end of hub so Bronze Bushing extension is not moved during armature assembly.</p> <p>Press armature plate onto hub, drag ring is interference fit to hub OD. This operation may require an arbor press.</p> <p>Use caution - armature is ground flat and should not be bent or distorted.</p> <hr/> <p>Drag ring must be on OD of spline. - See detail</p> <p>The armature should be as far back on the hub as possible to allow for travel when it self adjusts to compensate for wear. The drag ring position is critical to the operation of the self-adjusting mechanism; it also gives a positive release when the clutch and or brake is "OFF"</p>	
2	<p>Drive Media to Armature / Hub Assembly</p> <p>Assemble your sheave or sprocket to hub.</p> <p>Caution - When securing your drive media to extended hub, over tightening set screws or taper bushing may distort extended hub bearing.</p>	

<p>3</p>	<p>Extended Hub / Armature and Drive Media (sheave / sprocket)</p> <p>Slide this sub assembly onto shaft.</p> <p>Position this assembly so it is aligned with the other shaft's sheave/sprocket.</p> <p>Incorrect belt or chain alignment is will add side loads to the extended hub and shorten the clutch life.</p> <p>Install / Secure your collar against bronze bearing extension to limit outward movement of drive media and Extended Hub.</p>	
<p>4</p>	<p>Rotor Field to Shaft</p> <p>Slide Rotor Field onto shaft until Rotor Face contacts bronze bushing in the Extended Hub.</p> <p>Insert Key and tighten set screws of Rotor Field.</p>	
<p>5</p>	<p>Gap and Anti-rotate Tab</p> <p>Armature plate may need to be moved on spline to set .060 Gap.</p> <p>Make sure anti-rotate tab is not rigidly mounted.</p> <p>Secure anti rotate tab – See instructions below. Rotor Field to Shaft</p>	

Bearing mounted rotor/field assemblies and sheave clutches are offered in different styles depending on their size and torque characteristics. The anti-rotate arm on all versions must be constrained from motion by a clearance pin or shoulder bolt through the hole or slot in the arm. Do not rigidly attach the arm to any surface; it must float or damage can occur to clutches internal bearings.



6 Wiring

This is a Power Applied Product. DC Power must be supplied to the Clutch.

When Power is Applied to Clutch load is driven. When Power is Removed the load will coast to a stop. Wire with instructions included with your Clutch-Brake Power supply.

7 Run-In or Burnishing –

Our Friction products transmit torque by clamping two objects together electromagnetically. This clamping force requires a metal-to-metal contact between the magnetic poles and armature plate. The same as a horseshoe permanent magnet and a bar of steel. The strongest clamping action occurs when they are in contact.

Clutches and brakes are manufactured with the friction material slightly undercut below the magnet poles. This is done to ensure full pole contact when first operated. If the application requires full rated torque, it will be necessary to wear-in the surfaces of the armature and mating magnetic pole surfaces. This wear-in of the friction surfaces is called burnishing. Many applications do not require the full rated torque of the unit and do not require burnishing. If burnishing is required it is best when performed on the actual machine to maintain alignment of the grooves created during this process. Burnish time is dependent upon speed, load, and duty cycle.

Burnishing can be accomplished by reducing the voltage to 30 or 40% of the rated voltage and cycling the unit on and off in the application. At the reduced voltage, the unit will slip under load and wear it self in. The unit should be cycled “on” 2 seconds and “off” 10 seconds to prevent the friction surfaces from overheating.

