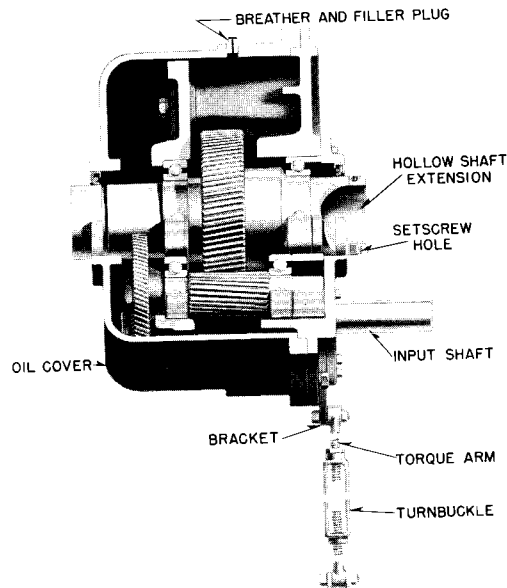




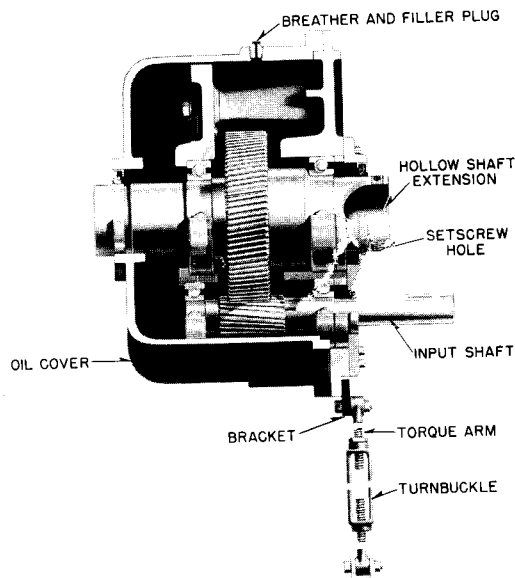
MODULINE* SHAFT MOUNTED SPEED REDUCERS

SINGLE REDUCTION



Type S05 Shaft Mounted
Speed Reducer

DOUBLE REDUCTION



Type D-14 Shaft Mounted
Speed Reducer

Types

Single Reduction Type S05
Double Reduction Type D14

Ratings 1 to 40 HP

Output Speed Range Single Reduction 350 to 90 RPM - Double Reduction 125 to 10 RPM based on 1750 RPM motors with V-Belt connection between motor and input shaft.

Introduction

Moduline shaft mounted speed reducers provide economical, efficient transmission of power at large reduction ratios in a minimum of space.

Proper performance of these reducers is dependent upon adherence to the nameplate ratings and to the instructions contained in this leaflet.

Description

Moduline shaft mounted units are offered in both single and double reduction. A common low speed gear and the same basic structure is used in both single and double reduction units. Any unit can be converted in the field from single to double reduction or from double to single reduction. This is accomplished by changing a few parts which are standard stock items.

Receiving, Handling and Storing

Immediately upon receipt of the speed reducer, examine the carton carefully. If any evidence of rough handling is apparent, notify the carrier (Transportation Company) at once, before unpacking the unit.

* Trade-Mark

NEW INFORMATION

APRIL, 1958

INSTALLATION

Preparation

The shaft on which the unit is to be mounted must be straight and free from nicks and burrs. The driven shaft extension lengths and minimum required keyseat lengths are shown in Table 2 on page 6. All keys are supplied except standard square sizes. All setscrews are supplied.

The driven shaft should be coated with an anti-sieze compound to facilitate removal of the unit from the shaft.

Mounting of Unit

Insert key and bushings, if required, into hollow shaft. Setscrew bushing to hollow shaft. Slide unit on to the driven shaft as

close to the bearing support as possible. Press only on hollow shaft extension. Do not hammer.

Internal parts are sprayed with rust preventative at the factory. Lubricant need not be added until the unit is ready for operation.

When it is necessary to hoist a speed reducer attach a sling to the hollow shaft extensions. Do not lift the unit by the oil cover.

Mounting of Bracket and Torque Arm

The bracket may be mounted in any position around the unit. The torque arm assembly should be located at right angles to a line adjoining the center of the hollow shaft and the center of the bracket. This position may be varied within the limits shown in Fig. 1.

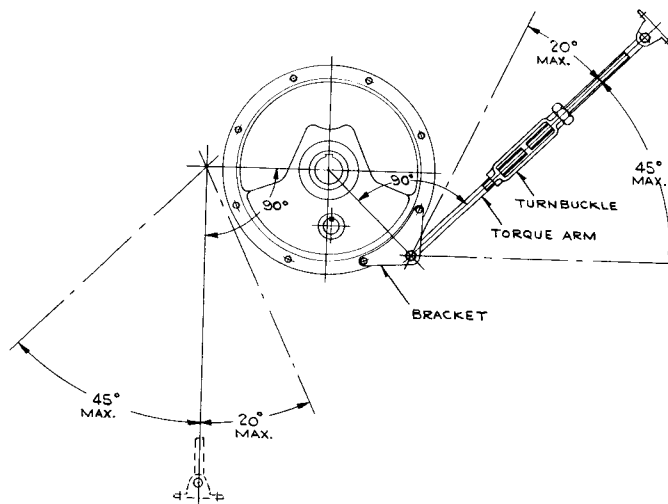


Fig. 1 - Shaft Mounted Unit - Torque Arm and Bracket Location

Operating Positions

Mounting of the turnbuckle and motor must be such that the unit operates with the input shaft within $\pm 15^\circ$ from the horizontal or vertical centerlines as shown in Fig. 2.

Mounting of Motor

For adjustment of belt tension, the centerline of the sheaves should be approximately at right angles to a line joining the input and hollow shafts. Fig. 3. Belt tension may then be adjusted by tightening or loosening the turnbuckle.

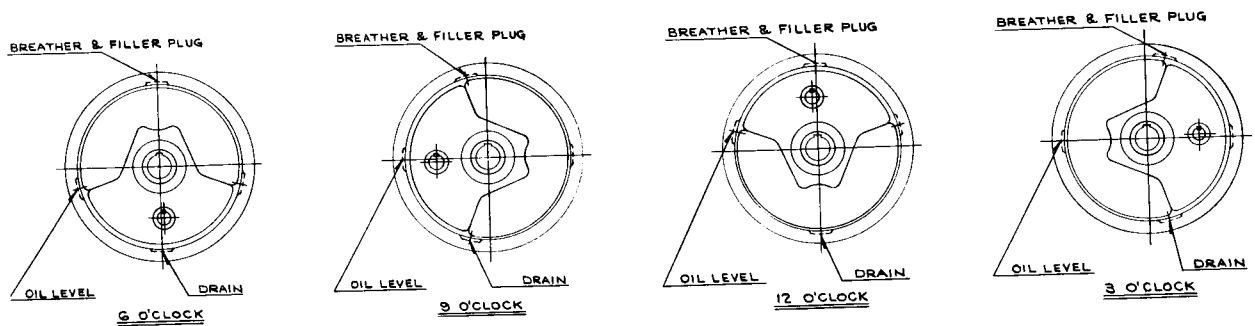


Fig. 2 - Shaft Mounted Units - Breathers, Oil Level, Drain Locations (Standard)

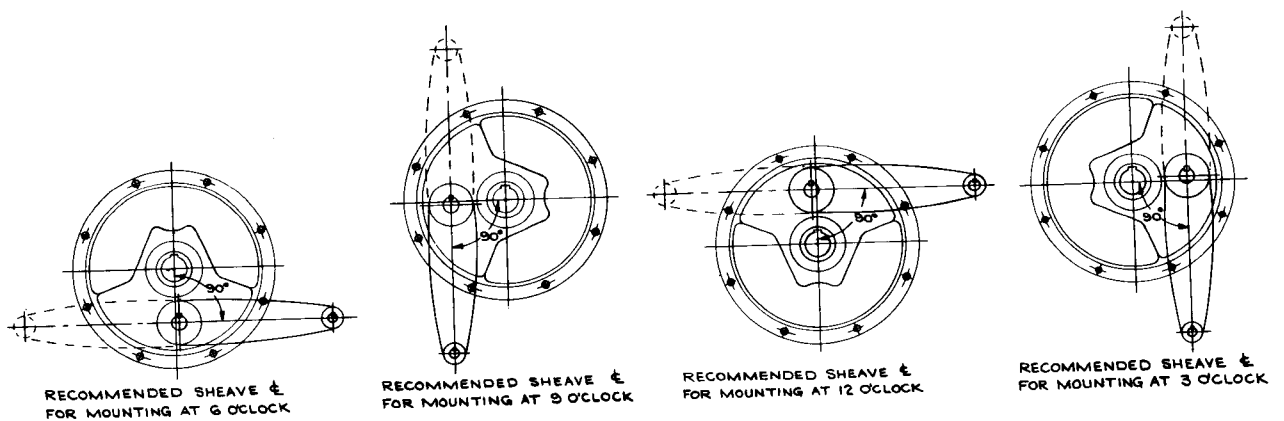


Fig. 3 - Shaft Mounted Unit Belt Locations

Installation of Sheaves and V-Belts

1. Assemble sheaves on motor shaft and input shaft. Shafts must be parallel and the grooves of both sheaves in close alignment.
2. Move the input shaft of gear unit towards motor to permit placing the belts in the grooves of both sheaves. Do not roll the belts on or use a tool to force belts over the grooves.
3. Before tightening the belts be sure slack in all belts is either on the top or the bottom.
4. Adjust the torque arm until the belts are seated in the grooves.

5. Do not use belt dressing of any kind.

Lubrication

Locate filler and oil level plugs as shown in Fig. 2 for the mounting selected. Fill the unit to the level indicated in Fig. 2 with a clean, high quality petroleum oil. The oil must be non-corrosive to gears or ball bearings, neutral in reaction, free from grit or abrasives, and have good defoaming and oxidation resisting properties. Lubricants must be within the viscosity shown in Table 1 for the ambient temperatures shown. Approximate oil capacities are shown in Table 2.

TABLE 1

Trade names of lubricants meeting AGMA recommendations are listed in Instruction Leaflet I.L.-7460.

				Unit Size	Approximate Oil* Capacity in Quarts
				107	2
				115	3-1/2
				203	5
				207	9-1/2
				215	15-1/2
				307	21
				315	29-1/2
Amb. Temp.	SAE No.	AGMA No.	Vis. 100°F		
0-40	30	#3	490-700		
41-100	40	#4	700-1000		
101-150	50	#5	1200-1500		

*Oil capacities are approximate and vary with operating position. Fill unit to level indicated in Fig. 2.

Maintenance

Check alignment of sheaves, adjust belt tension and tighten all bolts and setscrews after 36 hours of operation and at periodic inspection intervals thereafter.

Change oil in the gear unit every 6 months or every 2500 hours of operation.

Removing Unit from Driven Shafts

As shown in Fig. #4, either type of commercially available puller may be used if the unit will not slide off the driven shaft. Do not hammer or pry on the oil cover.

Modifications

Units may be modified in the field for backstops, overload releases or variable pitch pulleys. Contact Westinghouse for information.

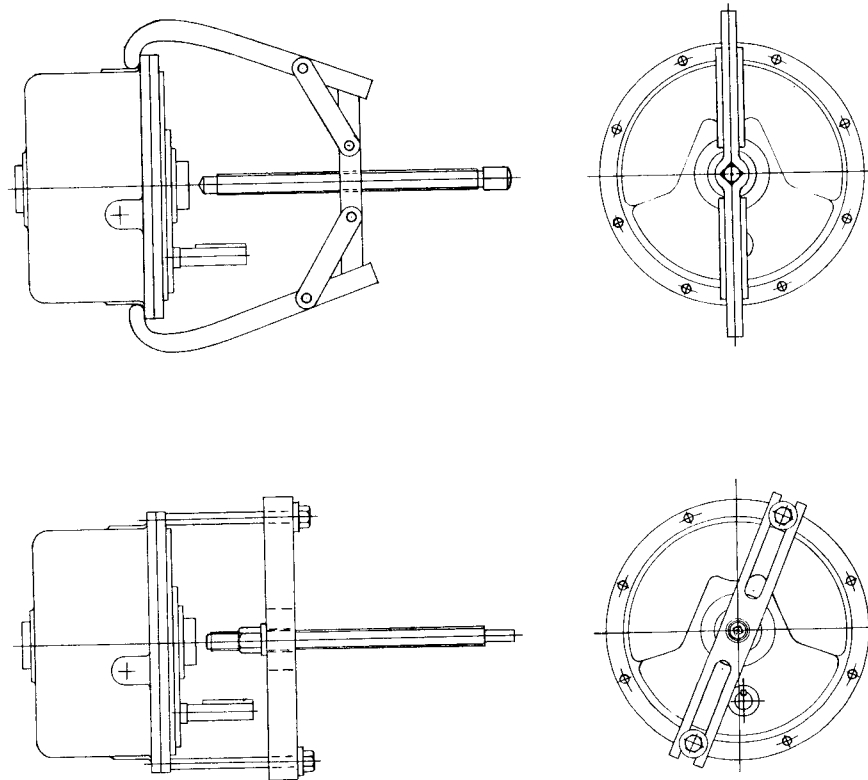


Fig. 4 - Shaft Mounted Unit - Standard Pullers

TABLE 2 - BORE DIMENSIONS AND BUSHING STOCK SIZES

Catalog Number	DRIVEN SHAFT EXT. LENGTH		STANDARD REDUCER BORE	AVAILABLE BACKING SIZES	REQUIRED KEY-SEAT CUSTOMER'S SHAFT	REQUIRED KEY CUSTOMER'S SHAFT	MOUNTING KIT # (STYLE NUMBER)
	MIN.	MAX.					
107S05 107D14	3	8-1/2	1-7/16 IN.	1-5/16 IN.	3/8 x 3/16 x 2-1/2	3/8 x 3/8 x 2-1/2	361C231H01
				1-1/4 IN.	5/16 x 5/32 x 2-1/2	FURNISHED	361C231H02
				1-3/16 IN.	1/4 x 1/8 x 2-1/2	FURNISHED	361C231H03
				1-1/8 IN.	1/4 x 1/8 x 2-1/2	FURNISHED	361C231H04
				1-1/16 IN.	1/4 x 1/8 x 2-1/2	FURNISHED	361C231H05
				1 IN.	1/4 x 1/8 x 2-1/2	FURNISHED	361C231H06
				15/16 IN.	1/4 x 1/8 x 2-1/2	1/4 x 1/4 x 2-1/2	361C231H07
115S05 115D14	3-1/4	9-3/4	1-15/16 IN.	1-3/4 IN.	1/2 x 1/4 x 3-1/4	1/2 x 1/2 x 3-1/4	361C231H09
				1-11/16 IN.	3/8 x 3/16 x 3-1/4	FURNISHED	361C231H10
				1-5/8 IN.	3/8 x 3/16 x 3-1/4	FURNISHED	361C231H11
				1-1/2 IN.	3/8 x 3/16 x 3-1/4	FURNISHED	361C231H12
				1-7/16 IN.	3/8 x 3/16 x 3-1/4	FURNISHED	361C231H13
				1-3/8 IN.	5/16 x 5/32 x 3-1/4	5/16 x 5/16 x 3-1/4	361C231H14
				1-5/16 IN.	5/16 x 5/32 x 3-1/4	5/16 x 5/16 x 3-1/4	361C231H15
				1-1/4 IN.	1/4 x 1/8 x 3-1/4	1/4 x 1/4 x 3-1/4	361C231H16
				1-3/16 IN.	1/4 x 1/8 x 3-1/4	1/4 x 1/4 x 3-1/4	361C231H17
							361C231H18
203S05 203D14	4	10-3/4	2-3/16 IN.	2 IN.	1/2 x 1/4 x 3-1/2	1/2 x 1/2 x 3-1/2	361C231H19
				1-15/16 IN.	1/2 x 1/4 x 3-1/2	FURNISHED	361C231H20
				1-7/8 IN.	1/2 x 1/4 x 3-1/2	1/2 x 1/2 x 3-1/2	361C231H21
				1-3/4 IN.	1/2 x 1/4 x 3-1/2	FURNISHED	361C231H22
				1-11/16 IN.	3/8 x 3/16 x 3-1/2	FURNISHED	361C231H23
				1-5/8 IN.	3/8 x 3/16 x 3-1/2	FURNISHED	361C231H24
				1-1/2 IN.	3/8 x 3/16 x 3-1/2	3/8 x 3/8 x 3-1/2	361C231H25
				1-7/16 IN.	3/8 x 3/16 x 3-1/2	3/8 x 3/8 x 3-1/2	361C231H26
							361C231H27
207S05 207D14	4-1/2	12	2-7/16 IN.	2-1/4 IN.	5/8 x 5/16 x 3-3/4	5/8 x 5/8 x 3-3/4	361C231H28
				2-3/16 IN.	1/2 x 1/4 x 3-3/4	FURNISHED	361C231H29
				2-1/8 IN.	1/2 x 1/4 x 3-3/4	FURNISHED	361C231H30
				2 IN.	1/2 x 1/4 x 3-3/4	FURNISHED	361C231H31
				1-15/16 IN.	1/2 x 1/4 x 3-3/4	FURNISHED	361C231H32
				1-7/8 IN.	1/2 x 1/4 x 3-3/4	FURNISHED	361C231H33
				1-3/4 IN.	3/8 x 3/16 x 3-3/4	3/8 x 3/8 x 3-3/4	361C231H34
				1-11/16 IN.	3/8 x 3/16 x 3-3/4	3/8 x 3/8 x 3-3/4	361C231H35
							361C231H36
215S05 215D14	5	14	2-15/16 IN.	2-11/16 IN.	3/4 x 3/8 x 4-1/4	3/4 x 3/4 x 4-1/4	361C231H37
				2-1/2 IN.	5/8 x 5/16 x 4-1/4	FURNISHED	361C231H38
				2-7/16 IN.	5/8 x 5/16 x 4-1/4	FURNISHED	361C231H39
				2-1/4 IN.	5/8 x 5/16 x 4-1/4	FURNISHED	361C231H40
				2-3/16 IN.	1/2 x 1/4 x 4-1/4	1/2 x 1/2 x 4-1/4	361C231H41
				2 IN.	1/2 x 1/4 x 4-1/4	1/2 x 1/2 x 4-1/4	361C231H42
				1-15/16 IN.	1/2 x 1/4 x 4-1/4	1/2 x 1/2 x 4-1/4	361C231H43
							361C231H44
307S05 307D14	6	16	3-7/16 IN.	2-15/16 IN.	7/8 x 7/16 x 5	7/8 x 7/8 x 5	361C231H45
				2-11/16 IN.	3/4 x 3/8 x 5	FURNISHED	361C231H46
				2-1/2 IN.	5/8 x 5/16 x 5	FURNISHED	361C231H47
				2-7/16 IN.	5/8 x 5/16 x 5	5/8 x 5/8 x 5	361C231H48
				2-1/4 IN.	5/8 x 5/16 x 5	5/8 x 5/8 x 5	361C231H49
					1/2 x 1/4 x 5	1/2 x 1/2 x 5	361C231H50
315D14	7	17-3/4	3-15/16 IN.	3-7/16 IN.	1 x 1/2 x 5-1/2	1 x 1 x 5-1/2	361C231H51
				2-15/16 IN.	7/8 x 7/16 x 5-1/2	FURNISHED	361C231H52
				2-11/16 IN.	3/4 x 3/8 x 5-1/2	3/4 x 3/4 x 5-1/2	361C231H53
					5/8 x 5/16 x 5-1/2	5/8 x 5/8 x 5-1/2	361C231H54

A KIT INCLUDES BUSHINGS OR KEYS, OR BOTH AS NECESSARY FOR MOUNTING REDUCER.



WESTINGHOUSE ELECTRIC CORPORATION
NUTTALL PLANT • GEARING DIVISION • PITTSBURGH 1, PA.