

CONNECTING THE POWER UNIT

Coupling Installation

Care should be taken in selecting the proper type and size of coupling. The great majority of installations will require a Universal joint of standard length, as this type is capable of absorbing the misalignment which may occur due to installation errors or settling of earth around the well. Installation should be preferably made as nearly in line as possible and it is extremely important that the center line of the engine be parallel to the center line of the drive shaft within 2 or 3 degrees. This precaution will prevent an unbalanced condition which would result in vibration and be detrimental to the gear drive bearings and drive shaft.

Certain types of flanged flexible couplings are suitable for close coupled drives, providing pump head and power unit are on the SAME RIGID FOUNDATION. Such couplings should be mounted and maintained according to the manufacturer's instructions. NEVER USE A RIGID FLANGED COUPLING.

IN FITTING THE UNIVERSAL JOINT OR FLEXIBLE COUPLING FLANGE TO THE DRIVE, IT SHOULD BE MACHINED FOR A PUSH FIT WITHOUT THE USE OF EXCESS POWER, AS HAMMERING ON THE DRIVE SHAFT WILL DAMAGE THE BEARINGS AND DESTROY THE ADJUSTMENT OF THE GEARS.

LUBRICATION

General Information

Careful attention to the lubrication requirements and use of the correct grade of oil is essential to continued and satisfactory operation of your Johnson Right Angle Gear Drive. *Gear drives should not be operated at speeds 15% above or below the nameplate RPM without consulting the Factory.* The operating speed of your drive is shown on the nameplate.

Changing Oil

Proper lubrication requires that the oil be changed at least once every six months or after 1200 hours of operation, whichever occurs first. Should extreme changes of temperature or humidity cause condensation in the reservoir, the oil should be changed more frequently. Drain the oil when hot, inspecting for water. Be sure to change the oil at the end of the operating season to remove any moisture which would otherwise rust the bearings and other finely machined parts.

Oil changing at the recommended time interval aids in restricting the amount of acid which may form in oils under high temperature and pressure conditions. Acids are injurious impurities in lubricating oils, since they attack the machine parts.

Keep the "Lubrication Record" as a guide for making these oil changes at the proper intervals.

Cold Weather

Close attention should be given the drive when starting under freezing conditions. The oil becomes very thick at low temperatures, which may result in flooding the thrust bearing (as evidenced by oil leak at top of drive). In such cases, providing the leak does not cease as the drive warms up, stop the drive and allow the oil to drain and then restart. Removal of dome on standard drives is required for above observations. CAUTION: *Be sure to check oil flow to gears* when starting under low temperature conditions.

Recommended Oil

The high-grade oils approved for the Johnson Right Angle Gear Drives are less susceptible to emulsification (mixing with water) and oxidation than other oils.

APPROVED LUBRICANTS

Ambient Temp °F	50-125	50-125	80-125
A.G.M.A. Grade	3	4	5
Visc. S.S.U. @ 100°F	417-510	510-900	900-1200
I.S.O. Visc. (cSt) @ 40°C	100	150	220

Chevron-USA	A.W. Mach 100	A.W. Mach 150	A.W. Mach 220
Citgo	Pacemaker 100	Pacemaker 150	Pacemaker 220
Exxon-USA	Teresstic 100	Teresstic 150	Teresstic 220
Gulf-USA	Harmony 100	Harmony 150	Harmony 220
Mobil Oil	Mobil DTE Heavy	Mobil DTE Ext Heavy	Mobil DTE BB
Phillips	Magnus 100	Magnus 150	Magnus 220
Shell-USA	Turbo 100	Turbo 150	Turbo 220
Sun Oil	Sunvis 100	Sunvis 150	Sunvis 220
Texaco	Regal R & O 100	Regal R & O 150	Regal R & O 220
Mobile Synthetic	N/A	N/A	629 - 220
High Performance Lubricants		Industrial Gear Oil 150	

Failure to use the above approved lubricants WILL VOID OUR WARRANTY. S.A.E. Automotive oils are NOT satisfactory and *must not be used* in the gear drive. USE OF AUTOMOTIVE OILS WILL ALSO VOID OUR WARRANTY.