



## Raider® Plus Standard Installation Instructions

## Power Transmission Solutions

Regal Beloit America, Inc.  
7120 New Buffington Road  
Florence, KY 41042  
Application Engineering: 800 626 2093  
www.RegalPTS.com

## FORM

9025E  
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### ⚠ WARNING

- Disconnect and lock-out power before installation and maintenance. Working on or near energized equipment can result in severe injury or death.
- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.
- Read and follow all instructions carefully.
- Worm gear reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized. **Reducers are not to be used as a brake.**
- Hot oil and reducers can cause severe burns. Use extreme caution when removing lubrication plugs and vents.
- Lifting supports including eyebolts are to be used for vertically lifting the gearbox only, with no other associated attachments or motors.
- A unit cannot be used as an integral part of the machine superstructure which would impose additional loads on the unit other than those imposed by torque being transmitted either through a shaft mounted arrangement, and any shaft mounted power transmitting device. (e.g., sprockets, pulleys, couplings, gears)

### ⚠ CAUTION

- Periodic inspections should be performed. Failure to perform proper maintenance can result in premature product failure and personal injury.
- All electrical work should be performed by qualified personnel and compliant with local and national electrical codes.

## Inspection

Inspect unit to make sure no damage has occurred during shipment.

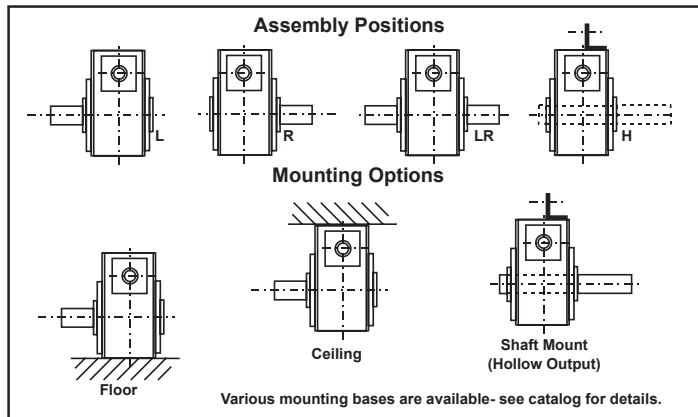
## Storage

Units should be stored in a clean, dry location. If units are to be stored for over six months, contact Application Engineering.

## Installation

- Mount units on a firm, flat surface which is sufficiently rigid to prevent vibration. Grade 5 fasteners or higher should be used.
- Drive belts and chains should be within recommend limits of tightness.
- Couplings should be properly aligned and balanced.
- For drive recommendations refer to drive or equipment manufacturer or Application Engineering.
- For shipment pipe plugs are installed in the unit and a vent plug is packed separately. After mounting the unit in position, remove the appropriate pipe plug and install the vent plug. Vent plug should be installed in the top or highest plug location. Failure to vent the unit can cause premature seal wear or loss of seal and oil. Check for correct oil level per lubrication instructions. Contact Application Engineering for level and vent recommendations for non-standard mounting positions.

FIGURE 1 MOUNTING POSITIONS



## Lubrication

- Units are factory filled for the worm top installation with a polyglycol 460 (PAG) (H1 food grade) lubricant or equivalent for continuous operation within a -10°F to 120°F temperature range. For other mounting positions the oil level must be adjusted.

- Do not operate the reducer without making sure it contains the correct amount of oil. Do not overfill or underfill with oil, or injury to personnel, reducer or other equipment may result.
- Do not change mounting positions without contacting Application Engineering. Altering mounting position may require special lubrication provisions which must be factory installed.

### NOTICE

- Ensure shaft keys are fully captive prior to use. Reduced torque capacity will result from a key not fully engaged.
- High inertia loads can back-drive the reducer during shut-down, resulting in product damage. Contact Application Engineering for recommendations.
- Avoid excessive force on input and output shafts during installation, as bearing damage can result. **Do not hammer on shafts.**
- Contact Application Engineering for recommendations for units running at slow speeds or unusual conditions.
- Contact Application Engineering if the unit operates longer than 100 hours at a temperature of 200° F. High temperatures can damage seals and bearings.
- EP oil is not recommended for worm gear reducers. These oils often contain elements which can react with the bronze worm gear.

- Do not mix different oils in the reducer. Reducers are shipped with standard PAG lubricant. This lubricant is not compatible with conventional mineral oil or PAO synthetic oils.
- Normal operating sump temperature of a worm gear reducer may be as high as 200°F. If sump temperature exceeds 200°F for longer than 100 hours contact Application Engineering.

## Change Intervals

- Non-standard compounded lubricants (non-synthetic) should be changed every six months or 2500 hours of operation whichever comes first.
- The factory supplied lubricant does not need changing except when performing maintenance that requires gearbox disassembly. However the following periodic inspections are recommended
  - Check oil level and add if necessary
  - Check breather/vent for proper operation
  - If operating in moist or dirty environment oil should be checked for contaminants on a regular basis and changed as needed.
- Flush unit prior to refilling if changing oil type.
- Install the supplied breather/vent in the proper location for the given mounting position.

Oil Capacity (ounces)									
Center Distance	Refer to Figure	Shaft Out				Hollow Out			
		Worm Top (1)	Worm Bottom (2)	Worm vertical	Output vertical	Worm Top (1)	Worm Bottom (2)	Worm vertical	Output vertical
1.33	2	4	8	4	4	4	8	4	4
1.54	2	12	16	16	16	10	14	14	14
1.75	2	12	20	16	16	10	18	14	14
2.06	2	20	28	28	24	16	24	24	20
2.37	2	24	40	32	32	20	36	28	28
2.62	2	40	60	48	48	34	54	42	42
3.00	2	56	84	68	72	48	76	60	64
3.25	2	72	108	88	82	60	96	76	70
3.75	3	138	115	100	140	100	115	121	81
4.50	3	205	180	157	182	188	180	173.5	148.5
5.16	3	324	216	198	240	283	216	219.5	177.5
6.00	3	512	366	274	400	421	366	354.5	228.5

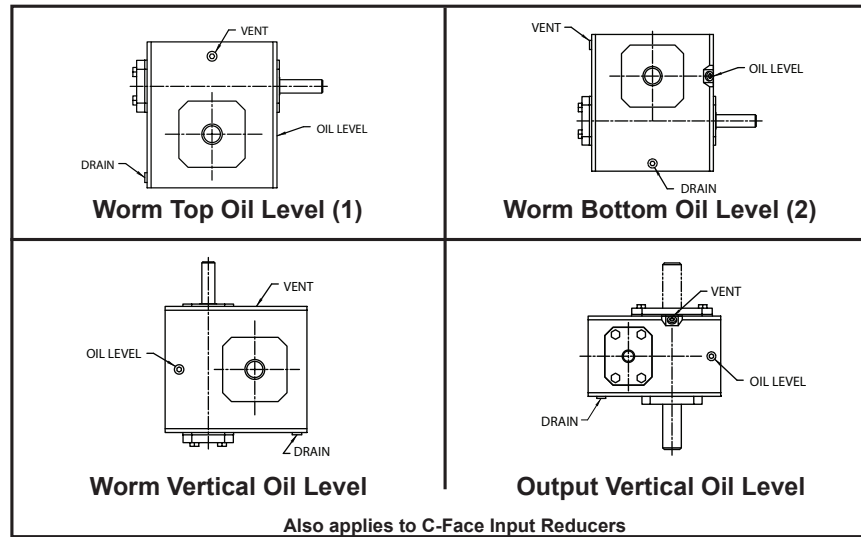
Note (1) Units are factory filled with Polyglycol 460 oil with amount for this mounting position

Note (2) Not recommended

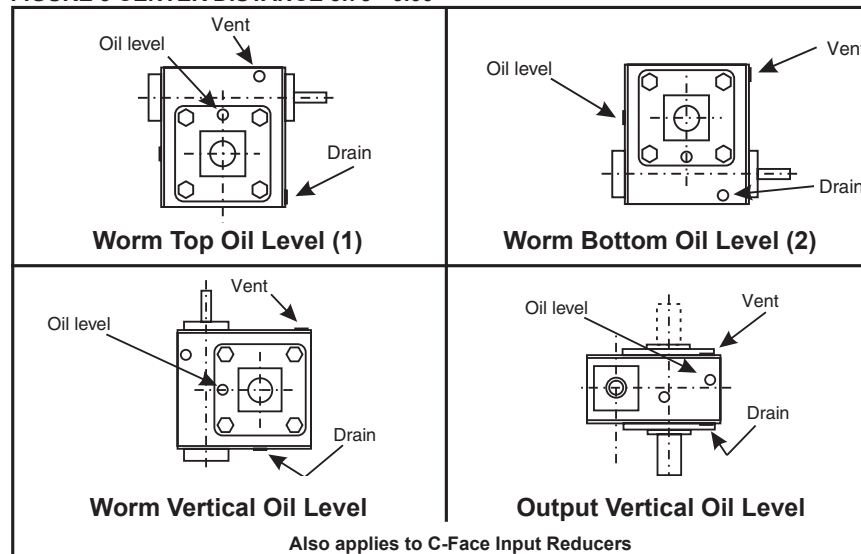
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**FIGURE 2 CENTER DISTANCE 1.33 - 3.25**



**FIGURE 3 CENTER DISTANCE 3.75 - 6.00**



**For Service Call**  
 Power Transmission Solutions Lifecycle Services  
 MAYSVILLE, KY 41056  
 Phone (800) 626-2093  
 ApplicationEngineering.PTSolutions@RegalBeloit.com  
 LifecycleServices.PTSolutions@RegalBeloit.com  
 Give complete Nameplate Data, including Identification Number

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www.regalbeloit.com