

Inspection and Storage

Inspection Upon Delivery

⚠ CAUTION

- In order to avoid injury, verify that the reducer is positioned right-side up **before** unpacking. Some units are not shipped right-side up, so re-positioning may be required.
- Verify that the reducer received matches your order. Installing an incorrect product is may result in personal injury or damage to the system.
- Do not remove rating plate.

Upon delivery of the Paramax® reducer, verify that:

- (1) The descriptions on the rating plate match your order.
- (2) There were no parts damaged during transport.
- (3) All bolts and nuts are firmly tightened.

If there is any doubt that the unit delivered does not match your order, contact the nearest Sumitomo agent, distributor or service office.

Rating Plate Information

- ① Speed Reducer Model
- ② Serial Number
- Input Power
- ③ Reduction Ratio

PARAMAX 9000

MODEL _____

SERIAL NO. _____

INPUT HP/KW _____

INPUT RPM _____

MECH RATING _____

RATIO _____

DATE _____

AGMA LUB.

OUTPUT SPEED	14/50	32/86	50/122
TEMP	10/15	0/30	10/50
RPM > 100	2 EP	4 EP	5 EP
RPM < 100	3 EP	5 EP	6 EP

CHANGE OIL EVERY 6 MO OR 2500 HRS WHICHEVER OCCURS
FIRST USE INDUSTRIAL TYPE PETROLEUM BASED EP1 GEAR OIL

SUMITOMO

MACHINERY CORP OF AMERICA
CHESAPEAKE, VIRGINIA

PMPA7510

Please have the following information ready when making enquiries:

- ① MODEL
- ② SERIAL NO.
- ③ RATIO

Fig.1 Paramax® Reducer Rating plate

Storage

When the Paramax® gearbox is inactive for a long period of time, long-term storage (LTS) preparation is required. It is necessary to prevent Paramax® gearboxes from rust or other degradation. This guideline describes the treatment and required maintenance before and after shipment for various time periods. The explanations apply to the following conditions only:

● Location and method of storage:

Sumitomo Drive Technologies (SDT) strongly recommends the storage area to be dry and relatively free of: humidity, dust, extreme temperature fluctuation and corrosive gas. Generally, the Paramax® gearbox is to be stored indoors, in an ordinary factory or a warehouse. The unit should be wrapped in plastic along with desiccant. The unit should be sealed while in storage and desiccant should be replaced periodically to keep inside of box dry. Color changing desiccant will aid in identifying when desiccant should be changed. *Consult factory for crating options for external storage.*

● Long-term storage specified with order:

If long-term storage is specified at the time of order entry, a NP-20 [JIS] equivalent rust preventative is sprayed into the Paramax® reducer and the air vent is replaced with a sealing plug before shipping the reducer from SDT factory. External machined surfaces are coated with a suitable NP-19 [JIS] petroleum base corrosion preventative such as “Black Bear Par-Al-Ketone”, “Houghton Rust Veto 342”, “Daphne Ever Coat No.1” or equivalent.

Long-Term Storage Preparation

The following describes the treatments and maintenance works for the exterior and interior of the Paramax® unit, if unit is to be prepared in the field.

NOTE: The storage time period starts from when the unit is shipped from SDT factory.

Preparation – After reducer is placed in the proper storage location

All storage terms

- (1) Make sure appropriate amount of rust preventative NP-20 [JIS] is sprayed into the gearbox (see Table 1). Rotate the shaft of the reducer gearbox by hand to assure complete rust preventative coverage of the interior.
- (2) Replace the air vent (if installed) and close the air vent hole with a sealing plug
- (3) Apply bearing grease to completely cover the externally visible shaft seals. Seals can deteriorate if exposed to higher temperatures and UV rays. A proper grease layer covering would act as a barrier to protect it from deterioration and foreign particle infiltration. SDT recommends “Beacon EP2”, “Mobil-Plex 48” or equivalent NLGI #2 for this purpose.

Storage (cont.), Transport

- (4) Apply corrosion preventative coating to cover the external machined surfaces (e.g. input and output shafts, screw holes, mounting surface) using "Black Bear Par-Al-Ketone", "Houghton Rust Veto 342" or any other NP-19 [JIS] equivalent as recommended by SDT.
- (5) Cover the reducer and shafts completely with waterproof plastic or better shielding material so the reducer is protected from dust, water and any substance that may be harmful to the reducer and seals. Desiccant between gearbox and plastic shall keep the unit dry from surrounding moisture.

Maintaining Storage Integrity

Storage term more than 3 months

NOTE: The following procedures (1) ~ (6) shall be repeated at least **every 3 months**

- (1) Inspect seals and replace them if necessary. If the seal body or lip(s) show any of the following defects then the seal should be replaced **immediately**: tear (crack), delamination, porosity (blister) contamination or deformation.
- (2) Manually turn the input or high speed shaft until the output or low speed shaft has made at least 3 complete revolutions; Min. No. of high speed shaft rotations required = 3 x reducer ratio (see Paramax® reducer nameplate).
- (3) Verify that there is no abnormal sound and the shafts rotate properly and smoothly. Contact the nearest SDT agent, distributor, or sales office if you observe any abnormality.
- (4) Apply bearing grease to completely cover and shield the shaft seals. SDT recommends "Beacon EP2", "Mobil-Plex 48" or equivalent for this purpose.
- (5) Examine corrosion preventative coating on machines surfaces and reapply if necessary.
- (6) Inspect the waterproof barrier and desiccant and replace if necessary.

NOTE: The following procedures (7) ~ (8) shall be repeated at least **every 6 months**

- (7) Drain the rust preventative completely and make sure the appropriate amount of rust preventative NP-20 [JIS] is sprayed again back into the gearbox (see Table 1). Do not use a different rust preventative than what has been used previously; else flushing the unit completely before applying a new type will be required. Rotate the shaft of the reducer gearbox by hand to assure complete rust preventative coverage of the interior. The rust preventative usually protects the internal components against rust for a period of up to 6 months; it therefore must be replaced on a regular basis when long-term storage of more than 6 months is required.

Table 1: Quantity of rust preventative

Reducer Size	9015-9035	9040-9055	9060-9075	9080-9095	9100-9118	9121-9136
Quantity (gal.)	0.1	0.15	0.25	0.5	1	2

- (8) Replace the air vent (if installed) and close the air vent hole with a sealing plug.

Operation After Storage

CAUTION! Do not operate the reducer with the rust preventative oil. Drain the rust preventative and fill with recommended lubricant (see SDT specifications of your Paramax® unit) before operating.

- (1) Oil seals deteriorate when exposed to dirt, high temperatures and UV rays. Inspect the oil seals before operating the Paramax® reducer and if necessary have them replaced. If the seal body or lip(s) show any signs of tear (crack), delamination, porosity (blister) contamination or deformation then the seal should be replaced **immediately** by a qualified technician/mechanic.
- (2) After starting the reducer gearbox, verify that there is no abnormal sound, vibration, or temperature rise during operation. Contact the nearest SDT agent, distributor, or sales office if you observe any abnormality.

Transport

DANGER

- Do not stand directly under a unit suspended by a crane or other lifting mechanism; otherwise, injury or death may result.

CAUTION

- Exercise ample care so as not to drop the reducer. If a hanging bolt or hole is provided, be sure to use it. After mounting a Paramax® reducer to the equipment, do not hoist the entire machine using the hanging bolt or hole; otherwise, personal injury or damage to the equipment and/or lifting device may result.
- Before hoisting, refer to the rating plate, crate, outline drawing, catalog, etc. for the weight of the Paramax drive or reducer. Never hoist a unit that exceeds the rating of the crane or other mechanism being used to lift it; otherwise, personal injury or damage to the equipment and/or lifting device may result.