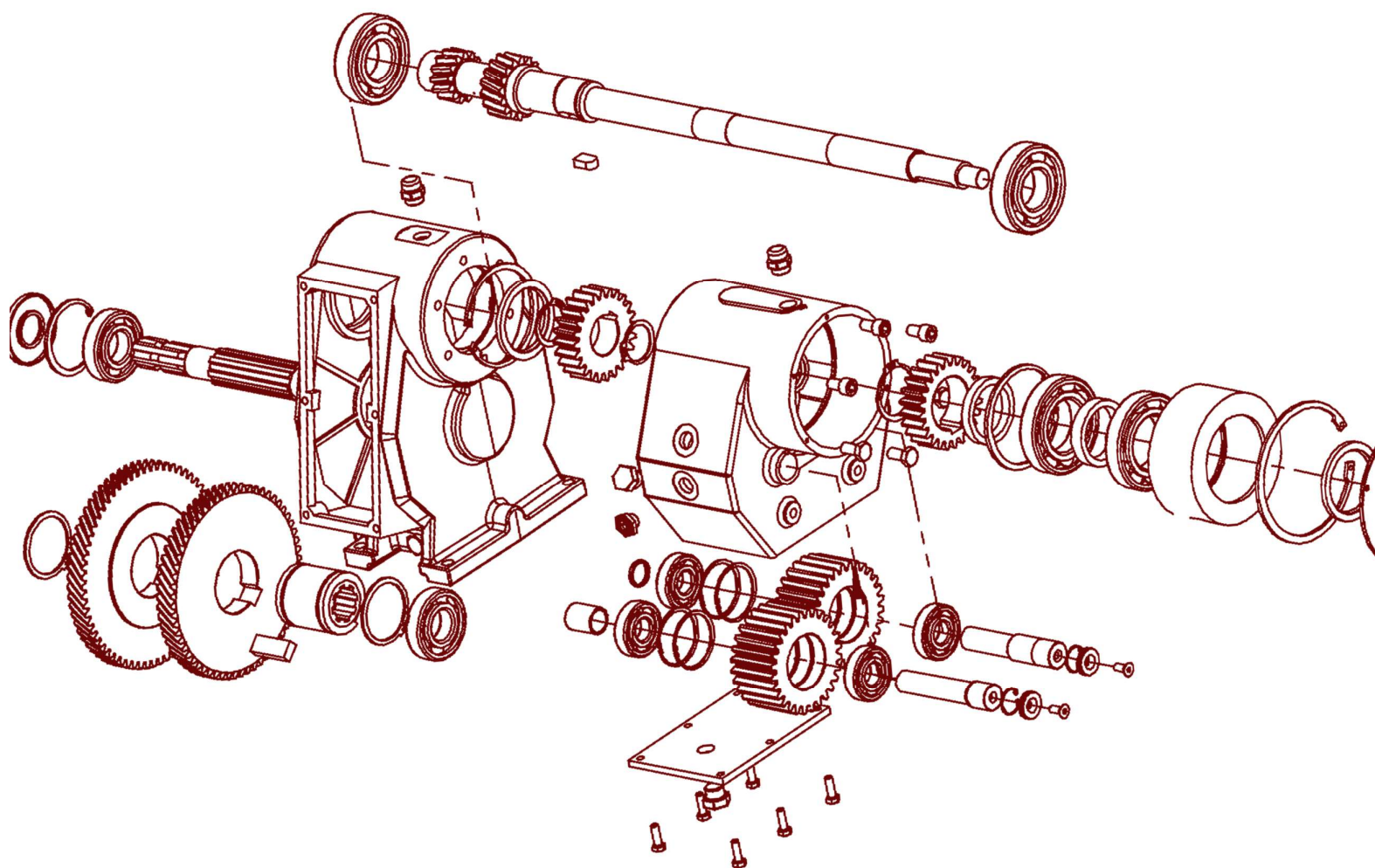




MANUAL AND INSTRUCTIONS FOR USE SPEED INCREASERS AND REDUCERS





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1. INTRODUCTION

1.1. Preface

This manual describes the correct installation and subsequent commissioning of your new reducer or increaser, and also includes the most important safety regulations.

Our support service will be at your disposal to help resolve any doubts that may arise.

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1.2. Manufacturer identification data

CMV sas di Consolaro Giampaolo & C.

Via San Giovanni, 48 36045 Lonigo (VI)

Tel +39 0444 831205

E-mail: info@cmvriduttori.it

VAT N. 02885460242

1.3. Symbols used

The instructions include symbols to facilitate reading:

General hazard to personal safety



1.4. Warranty and forfeiture

The warranty lasts two years from the date of invoicing of the product and is limited exclusively to the repair or free replacement of components recognized as defective. Verification for warranty recognition will be carried out exclusively at our facility. Any claims shall not in any case result in cancellation or reduction of orders, nor suspension of payments by the customer, nor give rise to compensation requests.

The warranty is void if the returned components are tampered with or repaired without our prior written authorization. It is also void if the customer fails to comply with any contractual obligations, particularly payment terms.

Our warranty does not cover:

- | | |
|--|---|
| - Damage or defects due to external agents | - Components subject to wear or deterioration |
| - Lack or improper maintenance | - Damage resulting from transport by the customer or designated carrier, as shipment is always at the customer's expense and risk |
| - Damage due to overload | |
| - Lack or incorrect lubrication | |
| - Incorrect selection of unit type | |

Material to be repaired will be accepted only if delivered carriage paid following our authorization, and will be returned carriage forward.



2. GENERAL INFORMATION

2.1. Intended use

The reducer has been designed and built to mechanically transmit rotational motion by reducing or increasing the rotation speed between the input and output shafts.

Performance and usage limitations are specified in the technical datasheet available upon request.

The unit must not be used for purposes other than those intended.

2.2. Declaration of incorporation

In accordance with Machinery Directive 2006/42/EC, the reducer or increaser, being intended to be incorporated and/or assembled with other machines or components, is considered a “component.” Therefore, it cannot be put into service before the machine in which it will be installed has been declared compliant with the provisions of Directive 2006/42/EC.

2.3. Technical assistance

For any assistance request, always refer to the technical data shown on the nameplate affixed to the reducer/increaser, which ensures complete identification.

2.4. Identification data of the reducer or increaser

All reducers are equipped with an identification plate containing the following information:

- Type of reducer / increaser
- Transmission ratio
- Code
- Date

	C.M.V s.a.s LONIGO (VI) MADE ITALY www.cmviduttori.it
Type	
i	
Code	
Date	

The nameplate must always be legible.

If a nameplate is no longer readable, it is recommended to request a new one from C.M.V. S.a.s. and replace it.

2.5. Technical specifications

The characteristics, dimensions, and performance of the reducers/increasers are described in the relevant technical datasheet.

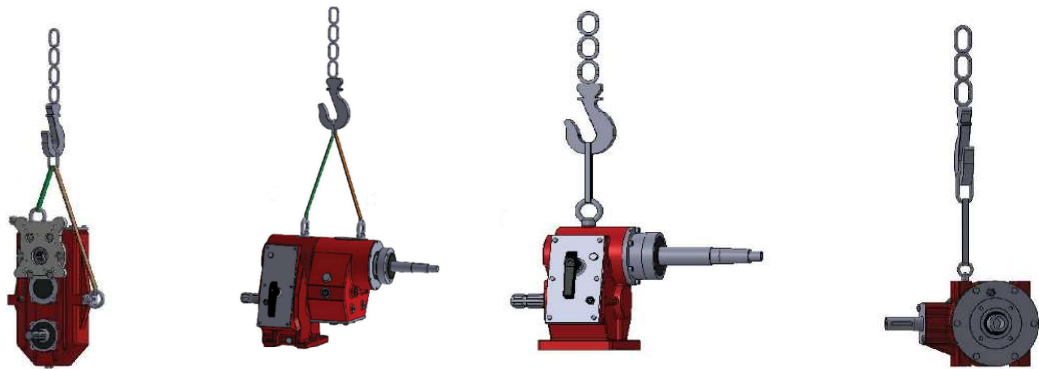
3. TRANSPORT AND HANDLING



Warning! Carefully read the instructions before handling the reducer/increaser. Reducers/increasers are generally delivered assembled and packaged on pallets. They must be lifted and handled using appropriate equipment suitable for their size and weight: pallet trucks, forklifts, overhead cranes with ropes, belts, or chains.

Individual reducers or increasers must be handled as follows:

- If their weight is equal to or less than 25 kg, they can be handled manually
- If their weight exceeds 25 kg, they must be handled using appropriate lifting and transport equipment



4. INSTALLATION INSTRUCTIONS

4.1. Inspection

After unpacking the reducer/increaser, we recommend checking that the product is intact and shows no breakage or damage; otherwise, this must be promptly reported to CMV sas.

4.2. Initial filling of reducer or increaser

Use appropriate PPE such as protective gloves and goggles.

For filling, open the upper filling/vent plug.

Pour oil until reaching the level visible on the level indicator plug.

-  Filling plug
-  Level plug
-  Drain plug

We recommend using a high-quality gear lubricant with viscosity SAE 150-200.

The quantity of oil to be added is indicated in the table, but note that these values are approximate



MODEL	OIL QUANTITY (LITERS)
MA501	L. 0,80
MA502	L. 1
MA86	L. 1,5
MA107	L. 1,6
MA110	L. 1,8
MA1102V	L. 1,8 + L. 1 (A2V)
MA110A2.5V	L. 1,8 + L. 1,2 (A2.5V)
MA1103V	L. 1,8 + L. 2 (A3V)
MA139	L. 3,5
MA139A3V	L. 3,5 + L. 2 (A3V)

4.3. Installation

The increasers/reducers are delivered already assembled in their main parts; installation therefore consists of positioning and securing the unit by connecting the input and output shafts.

- ✓ Check that the unit's technical data (power, speed) correspond to the machine characteristics.
- ✓ Before commissioning the reducer/increaser, ensure that the positions of the oil filling, draining, and level plugs correspond to the mounting position and are accessible for oil change and inspection.
- ✓ Check that the correct lubricant has been used and that the quantity is correct.
- ✓ Install the reducer/increaser so that it is not subject to vibrations during operation. Vibrations can cause noise and other issues such as loosening of connecting screws and increased loads on gears.
- ✓ Once installed, ensure that rotating shafts are properly protected.

5. MAINTENANCE

5.1. Routine maintenance

CLEANING:

Periodically clean the surface of the unit casing to ensure good heat exchange with the environment.

OIL LEVEL CHECK:

Insufficient lubricant does not ensure proper distribution on all internal gears and compromises heat exchange, resulting in increased internal temperature. This may cause overheating, especially in gear tooth contact areas, with risk of damage.

It is recommended to periodically check for oil leaks from seals, caps, and cover fastening screws.

It is also advisable to regularly check the oil level through the appropriate plug, with the machine stopped. If deposits or internal impurities are suspected, ensure that no foreign materials (such as dust or sand) have entered the casing and proceed with oil replacement.

If the level is below the required level, top up promptly



5.2. Periodic maintenance



OIL CHANGE

It is recommended to perform the first oil change after 100 operating hours, then every 500 hours.

Warning! Do not dispose of oil into the environment and operate in compliance with environmental regulations in the country of use.

1. Use appropriate PPE such as protective gloves and goggles.
2. Unscrew the upper filling/vent plug.
3. Unscrew the lower drain plug and allow the oil to drain completely.
4. Check that the level plug is clean; if necessary, remove and clean it.
5. Reinstall the drain plug.
6. Fill the reducer/increaser through the upper opening.
7. Reinstall the filling/vent plug.

* Note: oil quantity is indicative; fill until the level visible on the level indicator is reached.

TIGHTENING TORQUE TABLE FOR FASTENING SCREWS

For reducers/increasers, follow these tightening values:

Bolt	Torque for steel & cast iron (Nm)	Torque for aluminum (Nm)
M4	2.9	2.3
M5	6	4.8
M6	9,5	8
M8	24	20
M10	47	39
M12	80	49
M14	135	108
M16	210	168
M18	290	232
M20	405	328



5.3. Troubles, causes, remedies

The table below lists malfunction problems, with possible causes and remedies.

Issues	Causes	Remedies
Oil leakage from shafts	Worn, dirty, or defective seals	Replace seals
Oil leakage from flanges, covers	Worn or defective gaskets	Replace gaskets
Reducer/increaser emits noise at low speed	Elliptical input transmission	Adjust transmission; it must NOT be elliptical
Reducer/increaser emits knocking noise	Worn or broken gear teeth	Contact technical service
Reducer/increaser emits whistling noise	Insufficient oil quantity	Add lubricant up to level plug
	Defective or worn gears	Contact technical service
Gear disengages	Gear spring worn or broken	Contact technical service