

# Extension Adaptor with Speed Reducer

# ERG - 01

## OPERATION MANUAL

Thank you for purchasing the Extension Adaptor with Speed Reducer " ERG - 01". This Extension Adaptor with Speed Reducer is designed for connecting to the Espert500 motor (ENK - 500C or ENK - 500T) and using with Emax Evolution series attachments or the ROTUS series attachments and to reduce speed of rotation of the motor and increase torque. Read this and all the associated component Operation Manuals carefully before use. Always keep this Operation Manual in a place where a user can refer to for reference at any time.

### 1. CAUTIONS FOR HANDLING AND OPERATION

- Read these warnings and cautions carefully and only use in the manner intended.
- These warnings and cautions are intended to avoid potential hazards that could result in personal injury to the operator or damage to the device. These are classified as follows in accordance with the seriousness of the risk.

Class	Degree of Risk
<b>WARNING</b>	A safety hazard could result in bodily injury or damage to the device if the safety instructions are not properly followed.
<b>CAUTION</b>	A hazard that could result in light or moderate bodily injury or damage to the device if the safety instructions are not followed.

#### WARNING

- ① This Extension Adaptor is designed for hand tool. The Extension Adaptor is installed during Espert500 motors and the Emax Evolution attachments or the ROTUS attachments and used.
- ② Do not exceed the " Maximum Allowable Motor Rotation Speed " (Refer to " 3 - 1 Specifications ").
- ③ When sensing that the Extension Adaptor, attachment and motor are overheated during operation, reduce the working force or the motor rotation speed, or stop the operation until the Extension Adaptor cools down before restarting.
- ④ Do not touch the cutting tool while it is running. It is very dangerous.
- ⑤ Wear safety glasses, dust mask, and use a protective cover around the Extension Adaptor whenever the Extension Adaptor is rotating.
- ⑥ Do not apply excessive force. This may cause tool slippage, tool damage, injury to the operator, loss of concentricity and precision.

#### CAUTION

- ① Do not drop or hit the Extension Adaptor, as shock can cause damage to the internal components.
- ② When cleaning a Extension Adaptor, stop the motor and remove debris with a soft brush or a cloth. Do not blow air into the Extension Adaptor with compressed air as foreign particles or cutting debris may get into the ball bearing.
- ③ Make sure that the transmission clutches engage firmly, when connecting to the motor and the attachment.
- ④ Stop working immediately when abnormal rotation or unusual vibration are observed. Immediately, please check the content of section " 5. TROUBLESHOOTING ".
- ⑤ No lubrication is required because grease impregnated ball bearings are used.
- ⑥ After installation, repair, initial operation, or long periods of non operation, please carry out break -in as follow. Start rotating slowly and over a short period of 5 - 10minutes, increase speed gradually until allowable maximum speed.
- ⑦ Do not disassemble, modify or attempt to repair this Extension Adaptor. Additional damage will occur to the internal components. Service must be performed by NSK NAKANISHI or an authorized service center.

### 2. FEATURES

- ① This Extension Adaptor is developed for using with the Emax Evolution series attachment and ROTUS series attachment to be connected to Espert 500 motor.
- ② It Extension Adaptor the rotation speed of the attachment to 1/4 and increase the torque while keeping.
- ③ This Extension Adaptor can be most appropriate abrasive operation with low rotation speed and high-torque.

### 3. SPECIFICATIONS AND DIMENSIONS

#### 3 - 1 Specifications

Model	ERG - 01
Reduction Ratio	1 / 4
Maximum Allowable Motor Rotation Speed	Less than 30,000min <sup>-1</sup> (rpm)
Maximum Motor Rotation Speed at the Cutting Tool	Less than 7,650min <sup>-1</sup> (rpm)
Applicable Motor	Espert 500 Motor (ENK - 500C, ENK - 500T)
Weight	62g

#### Standard Accessories

- Pin Wrench (K - 233) • 1pc.
- Operation Manual • 1set

#### WARNING

- Do not exceed the " Maximum Allowable Motor Rotation Speed ".
- When sensing that the Extension Adaptor, attachment and motor are overheated during operation, reduce the working force or the motor rotation speed, or stop the operation until the Extension Adaptor cools down before restarting.

#### 3 - 2 Outside View

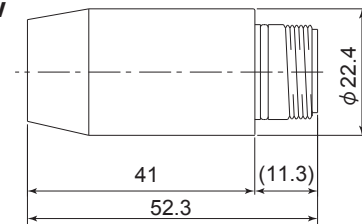


Fig. 1

### 4. CONNECTION TO THE MOTOR

#### CAUTION

Make sure your hands and all interlocking parts of the Extension Adaptor and motor are clean before connecting the motor to the Extension Adaptor. This is critical to prevent contaminants from entering the motor or Extension Adaptor.

Align the thread on the front end of the motor and the rear of the Extension Adaptor, and turn the Extension Adaptor clockwise. If the drive shaft of the motor does not engage properly to the drive dog on the Extension Adaptor, it may only turn approximately two threads before stopping. DO NOT FORCE THEM TOGETHER. Turn the Extension Adaptor back a few threads, rotate the Extension Adaptor by hand to engage the drive shaft and the drive dog, and make the final turns.

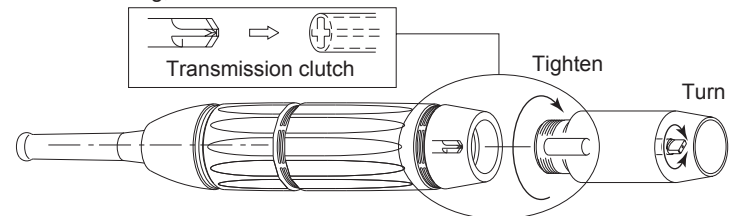


Fig. 2

### 5. TROUBLESHOOTING

If a problem or concern occurs, please check the following prior to consulting your dealer.

Trouble	Cause	Inspection / Corrective Action
Extension Adaptor does not run.	The ball bearings have been damaged.	Replace the ball bearings. (Return to NAKANISHI dealer service.)
Overheating during rotation.	Cutting debris has contaminated the ball bearings, and the ball bearings are damaged.	
Abnormal vibration or noise during rotation.	Cutting debris has contaminated the ball bearing.	
	The spindles ball bearings have been damaged.	

### 6. DISPOSAL OF THE EXTENSION ADAPTOR

When disposal of an Extension Adaptor is necessary, follow the instructions from your local government agency for proper disposal of industrial components.

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