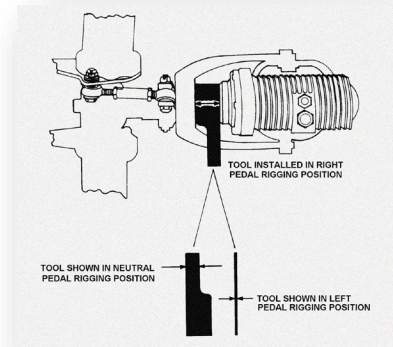
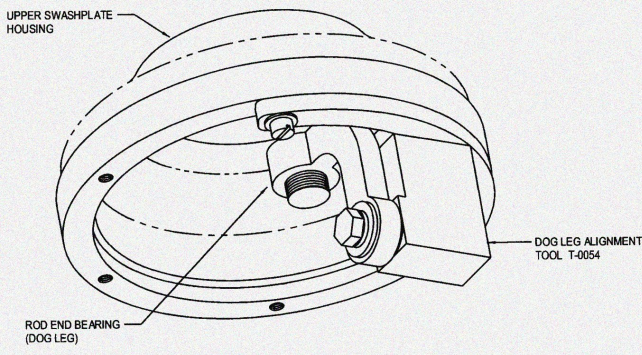
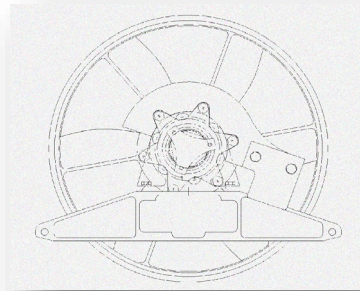
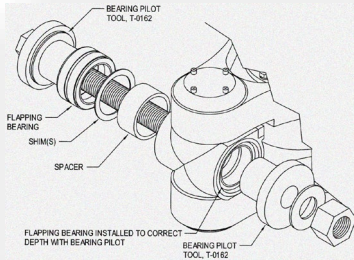




ENSTROM HELICOPTER CORPORATION



Illustrated Tool Catalog Piston & Turbine

INTENTIONALLY LEFT BLANK

Table of contents

Odering form

Pg. 2-3

Sec-1 Flight Controls and Rotor systems

| Tool #/PN | Tool Description | Piston/ Turbine | Page Number |
|------------|------------------------------------|--------------------|----------------|
| T-0003 | Wrench (Thrust Nut) | P/T | 7 |
| T-0005 | Tool Damper Rod End Removal | P/T | 8 |
| T-0009 | M.R. Blade Bolt Guide Bullet | P/T | 9 |
| T-0011 | Sling: Main Rotor Hoist | P/T | 10 |
| T-0012 | Tool, Rigging, "A" MD T.R.XMSN | P | 11 |
| T-0080 | Tail Rotor Rigging Tool C&F MD | P | 11 |
| T-2889 | Tail Rotor Rigging Tool | T | 11 |
| T-0013 | Socket – Thrust Nut | P/T | 12 |
| T-0014 | Injector Lub. Fitting | P/T | 13 |
| T-0016 | Tool Lower Swashplate Gimbal | P/T | 14 |
| T-0022 | Collective Capsule Retainer | P/T | 15 |
| T-0026 | Form Tool Trim Tab | P/T | 16 |
| T-0027 | M.R. Blade Tab Angle Tool | P/T | 17 |
| T-0033 | Tool Wrench Nut | P | 18 |
| T-0036 | M.R. Grip Seal Installation Tool | P/T | 19 |
| T-0045-1 | Lower Swashplate Dogleg Puller | P/T | 20 |
| T-0048 | Main Rotor Mast Nut Tool | P/T | 21 |
| T-0051-3 | Main Rotor Flapping Nut Tool | P/T | 22 |
| T-0054 | Swashplate Dogleg Alignment | P/T | 23 |
| T-0056-3 | Tool Wrench Lock-Nut TR ASSY | P/T | 24 |
| T-0057 | Tool Damper Cycle | P/T | 25 |
| T-0079-1 | Swaging Tool-Swash Plate | P/T | 26 |
| T-0086 | Tool Upper Guidetube Retaining Nut | P/T | 27 |
| T-0087-15 | Tail Rotor Assembly Balance | P/T | 28 |
| T-0100-1 | Tool SP Bushing INST | P/T | 29 |
| T-0102-1 | Tool, Tube | P/T | 30 |
| T-0104-1 | Tool Swashplate Bushing Align | P/T | 31 |
| T-0111-SET | Tool Correlator Rigging Set | P | 32 |

| | | | |
|--------------|--------------------------------|-----|----|
| T-0113 | Tool Correlator Rigging | P | 32 |
| T-0121-1 | Tail Rotor Balance Stand | P/T | 33 |
| T-0134-3 | Tool Swash Plate MOD. | P/T | 34 |
| T-0140 | Tail Rotor Rigging Tool | T | 35 |
| T-0149 | Grip Seal Installation Tool | T | 36 |
| T-0151-1 | U-Block Bearing Tool & Access | P/T | 37 |
| T-0152 | Tail Rotor Balance Tool | P/T | 38 |
| T-0160-1 | Damper Piston/Seal Tool | P/T | 39 |
| T-0161-1 | U-Block Seal Installation Tool | P/T | 40 |
| T-0162-1 | Flapping Bearing INSTL Oil | P/T | 41 |
| T-0168-1 | Tool-Tailrotor Blade ASSY HLDR | P/T | 42 |
| T-0174-1 | Tool: Hub Puller | P/T | 43 |
| T-0195-1 | L-Bracket Reflector ASSY.Blade | P/T | 44 |
| T-0197-7 | TORQ Multiplier Assembly | P/T | 45 |
| T-0224 | Main Rotor Hub Stand | P/T | 46 |
| T-1575 | Swashplate Centering Tool | P/T | 47 |
| T-1656-3 | Tool ¼" Drive M.R. Blade Plug | P/T | 48 |
| T-1709 | Tool Guidetube Bearing Collar | P/T | 49 |
| T-1758 | Tool Guidetube DISASSY Clamps | P/T | 50 |
| T-1775 | Locator – Cyclic Fitting Stick | P | 51 |
| T-2893 | Tool Puller T/R Teeter Bearing | P/T | 52 |
| T-2896-1 | Damper Bleeding Tool Set | P/T | 53 |
| T-4167511-15 | Cyclic Centering Tool (FWD) | T | 54 |
| T-4167511-17 | Cyclic Centering Tool (AFT) | T | 54 |
| NPN | MRB Static Balance Tool | P/T | 55 |

Sec-2 Drive Train and Powerplant

| | | | |
|------------|---|-----|----|
| T-0017 | Transmission Hoist Eye | P/T | 56 |
| T-0029-SET | Tool Shaft & Collar Extractor | P | 57 |
| T-0044 | Tool Drive Pulley Alignment (For AG Pulley use T-0044-AG) | P | 58 |
| T-0068-3 | T.R. Output Shaft Indicator | P/T | 59 |
| T-0078 | Tool Engine Adapter Wrench | P | 60 |
| T-0088 | TR Drive shaft ALIGNM'T (P) | P | 61 |
| T-0143-1 | TR Drive Shaft ALIGNM'T (T) | T | 61 |
| T-0092-5 | Taper Pin Removal Tool | P/T | 62 |

| | | | |
|--------------|---------------------------------|-----|----|
| T-0133-1 | Pulley Restraint Tool ASSY | P | 63 |
| T-0135-1-SET | Pinion Nut Crowfoot & Adapter | P/T | 64 |
| T-0136-1 | O.R.Clutch Housing Wrench | T | 65 |
| T-0137-1 | Engine Hoist | T | 66 |
| T-0139-1 | Belt Tension Gauge | T | 67 |
| T-0141 | Drive System Alignment Tool | T | 68 |
| T-0153-1 | Tool Fan Balance 2000 CHAD | T | 69 |
| T-0154-1 | Tool Turbine Engine TRAN.DOLLY | T | 70 |
| T-0156 | Wrench,Oil Filler Tube Piston | P | 71 |
| T-0164-1 | Upper Pulley Restraining Tool | T | 72 |
| T-0166-11 | Oil Cooler Shaft Alignment | T | 73 |
| T-0172-1 | Seal Tool INSTL. Turbine Engine | T | 74 |
| T-0177-11 | Cover, Lower Plenum | T | 75 |
| T-0179 | Magneto Spring INSTL. Tool | P | 76 |
| T-0182-1 | Stand, Turbine Engine | T | 77 |
| T-0186-1 | Overrunning BRG/SEAL Tool Set | T | 78 |
| T-0187-1 | Fuel Nozzle Wrench | T | 79 |
| T-0194-1 | Bore Concentricity IND. ToolSet | T | 80 |
| T-0196-1 | M.R. Mast Runout Dial IND.Tool | P/T | 81 |
| T-0198-11 | Enabler, Oil Drain MRGB | P/T | 82 |
| T-0204 | Fan Shroud Alignment Tool | P | 83 |
| T-0213 | Main Rotor Transmission Dolly | P/T | 84 |
| T-1900-1 | Fan Balancing Tool | P | 85 |
| RBT18560 | Double Lip Seal Puller | T | 86 |
| NPN | Overrunning Clutch Purge Tool | P | 87 |

Sec-3 Miscellaneous

| | | | |
|-----------|---|-----|----|
| T-0035 | Oleo Holding Tool | P/T | 89 |
| T-0169-1 | Oleo Dis-assembly Tool | P/T | 90 |
| T-0199-1 | Tailcone Laser Alignment Tool | P/T | 91 |
| T-0200-5 | Laser Target | P/T | 92 |
| T-0232-11 | TURB Fuel Fill INSTL Tool (Ahlers fuel probe) | T | 93 |
| NPN | Maintenance Stand | P/T | 94 |
| T-3004 | Tool Tailcone Stand/Block | P/T | 95 |

Sec-1 Flight Controls and Rotor systems

| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|---------------|---------------------|-------------------|
| T-0003 | Wrench (Thrust Nut) | P/T |

USAGE

Special wrench for hub lead lag nut.
Used to remove and install lead lag retention nut.

NOTE

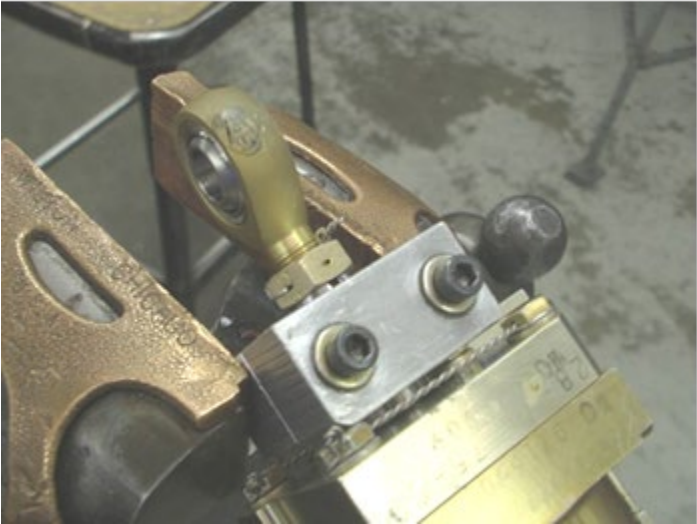
Hub is pictured here up-side-down



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------------|--------------------------|
| T-0005 | Tool Damper Rod End Removal | P/T |

Usage

Special Wrench for Lead Lag Damper Shaft
Use to remove the rod end from the damper.



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|------------------------------|--------------------------|
| T-0009 | M.R. Blade Bolt Guide Bullet | P/T |

Usage

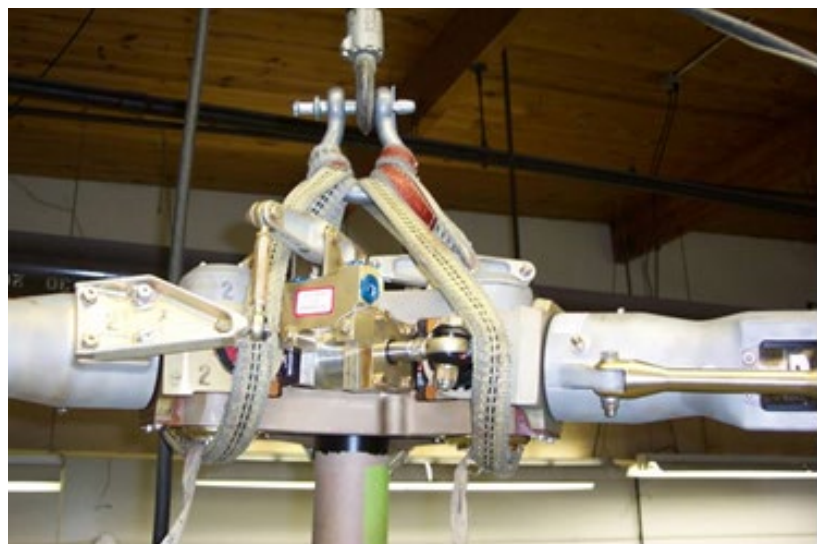
**Alignment tool for Main Rotor Blade Pin
Installed on main rotor blade bolt to aid in alignment
while installing bolt.**



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-------------------------|--------------------------|
| T-0011 | Sling: Main Rotor Hoist | P/T |

| |
|--|
| <i>Usage</i> |
| Tool for slinging the helicopter or hub / transmission assembly Used to sling the helicopter for working on the landing gear, and also to remove and install the hub / transmission assembly in the helicopter. |

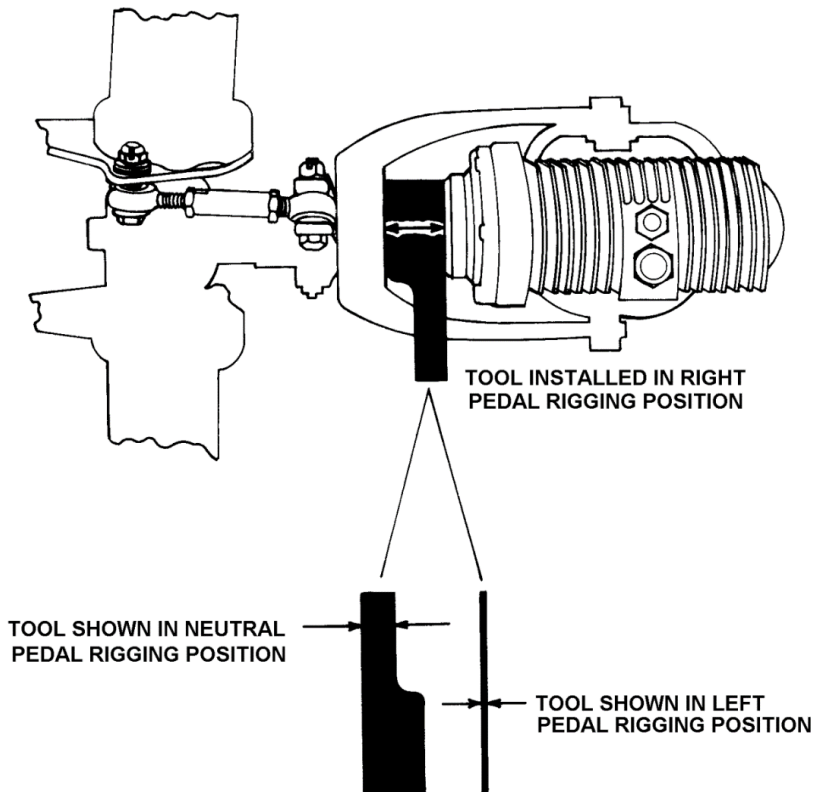
| |
|--|
| NOTE The entire weight of the helicopter can be lifted off the ground using this method. |
|--|



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------------|-------------------------------|
| T-0012 | Tool, Rigging, "A" MD T.R.XMSN | P (A, & 280 Models) |
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
| T-0080 | Tail Rotor Rigging Tool C&F MD | P (C, & F MODELS) |
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
| T-2889 | Tail Rotor Rigging Tool | T |

Usage

Tail Rotor Control Rigging Tool
Tool used to set tail rotor control rigging.



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|---------------------|--------------------------------------|
| T-0013 | Socket – Thrust Nut | P/T (ONLY SOME EARLY 480s) |

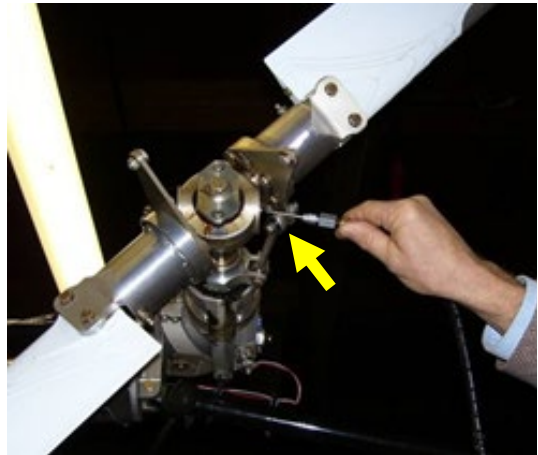
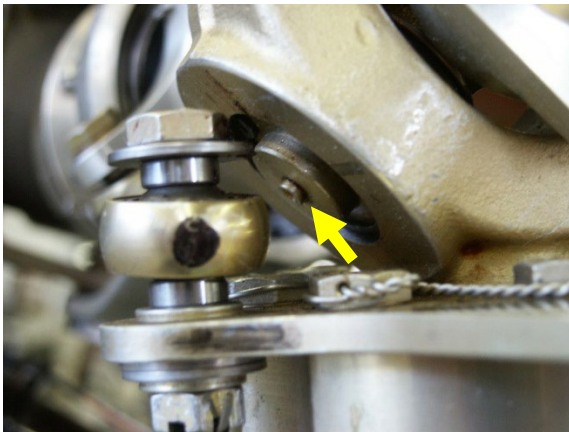
| <i>Usage</i> |
|--|
| Used to remove and Install Lamiflex retention nut on piston aircraft and on a few early 480 models. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------|--------------------------|
| T-0014 | Injector Lub. Fitting | P/T |

Usage

**Special tool for greasing TR Teeter Bearings
Installs on grease gun for lubing the TR Spindle Teeter Bearings.**



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|------------------------------|--------------------------|
| T-0016 | Tool Lower Swashplate Gimbal | P/T |

| |
|--|
| <i>Usage</i> |
| Special Wrench for Swashplate Tie Bolt Used to hold the swashplate tie bolt for assembly and disassembly. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------------|--------------------------|
| T-0022 | Collective Capsule Retainer | P/T |

| <i>Usage</i> |
|--|
| <p align="center">Collective Spring Capsule Restraining Tool Used to restrain the collective capsule spring pressure when removing and installing the spring capsule in the helicopter.</p> |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------|--------------------------|
| T-0026 | Form Tool Trim Tab | P/T |

| |
|--|
| <i>Usage</i> |
| <p align="center">Trim Tab Adjusting Tool Used to adjust inboard and Outboard main rotor blade trim tabs when tracking blades.</p> |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|---------------------------|--------------------------|
| T-0027 | M.R. Blade Tab Angle Tool | P/T |

| <i>Usage</i> |
|--|
| Blade Trim Tab Protractor Used to read trim tab angles. |



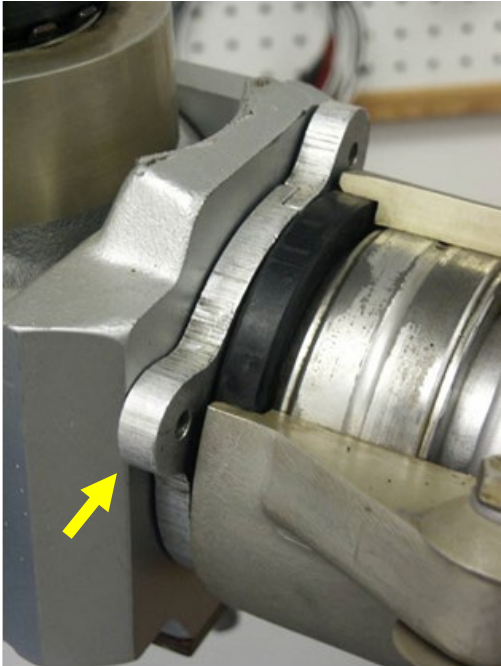
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------|--------------------------|
| T-0033 | Tool Wrench Nut | P (A) Model |

| <i>Usage</i> |
|---|
| <p>TR Blade Bearing Retention Nut Wrench Used to remove and install the TR grip bearing retention nuts on A model 3.3 "chord blade only.</p> |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|----------------------------------|--------------------------|
| T-0036 | M.R. Grip Seal Installation Tool | P/T |

| <i>Usage</i> |
|---|
| Special Tool to Install Grip Seal Used to push the seal into the grip when installing the grip on the spindle. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------------|--------------------------|
| T-0045-1 | Lower Swashplate Dogleg Puller | P/T |

Usage

**Puller Tool for Main Rotor Push-Pull Control Rods
Used to remove dog leg assemblies from control rods.**



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------|--------------------------|
| T-0048 | Main Rotor Mast Nut Tool | P/T |

Usage

Special Wrench for Mast Nut. Used to remove and install the upper mast nut.



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|------------------------------|--------------------------|
| T-0051-3 | Main Rotor Flapping Nut Tool | P/T |

| |
|---|
| <i>Usage</i> |
| Special Wrench for Flapping Pin Nut Used to remove and install flapping pin nut. |



T-0051-1



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|------------------------------|--------------------------|
| T-0054 | Swashplate Dog Leg Alignment | P/T |

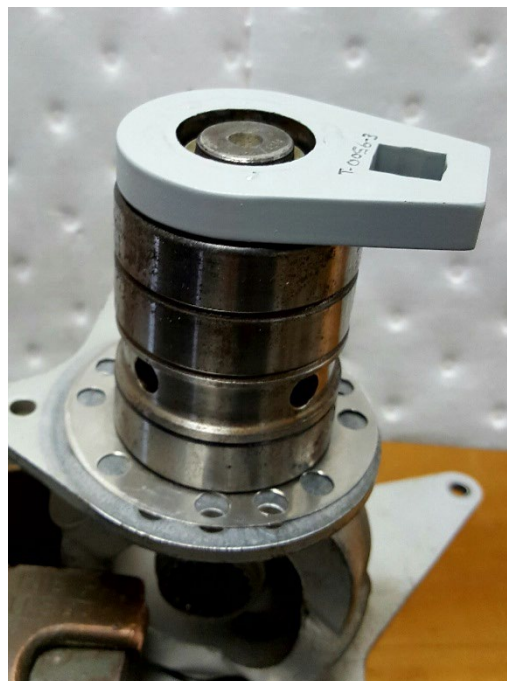
| <i>Usage</i> |
|--|
| <p align="center">Dog Leg Alignment Tool Used to align dog legs during installation onto main rotor push-pull control rods.</p> |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|------------------------------|-------------------|
| T-0056-3 | Tool Wrench Lock-Nut TR ASSY | P/T |

Usage

**Special Wrench for TR bearing retention nut
Used for removal and installation of TR Grip bearings on spindle.
Also used to torque tail rotor gearbox input shaft nut.**



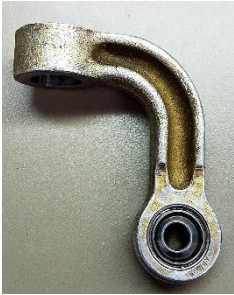
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------|--------------------------|
| T-0057 | Tool Damper Cycle | P/T |

| <i>Usage</i> |
|--|
| Special Tool to Cycle Main Rotor Lead-Lag Dampers Used to cycle dampers to bleed air following maintenance. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------|--------------------------|
| T-0079-1 | Swaging Tool-Swash Plate | P/T |

| |
|---|
| <i>Usage</i> |
| Tools & Installing ECD030-11 Bearings. |



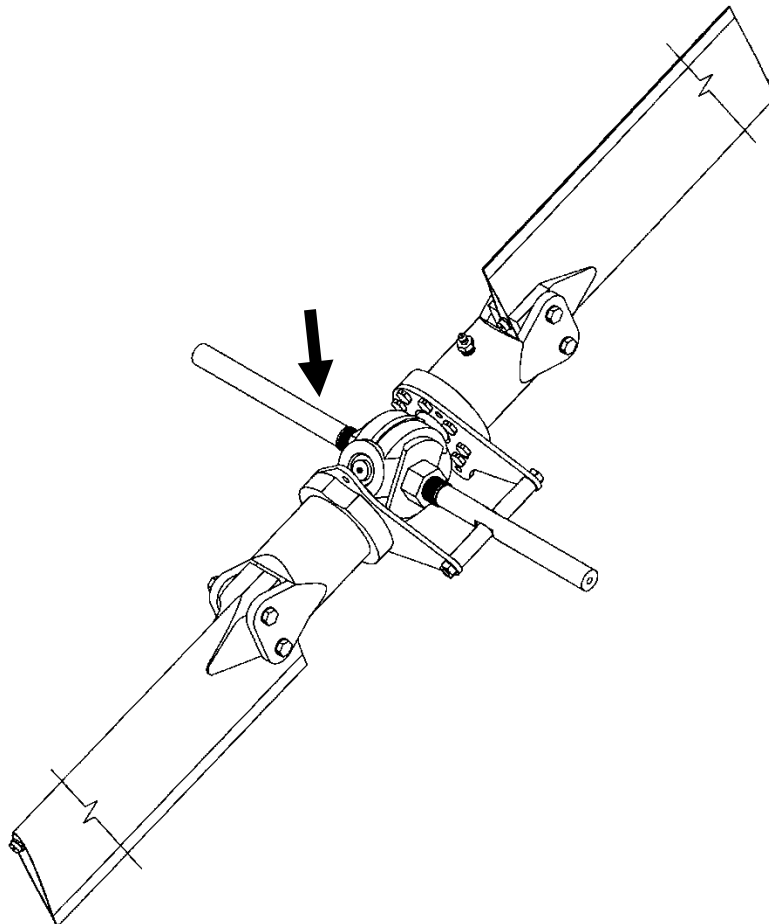
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|------------------------------------|--------------------------|
| T-0086 | Tool Upper Guidetube Retaining Nut | P/T |

| <i>Usage</i> |
|---|
| Special Wrench for Upper Guide Tube Retention Nuts Used to remove and install nuts that secure the upper swashplate guide tubes into the upper swashplate housing. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------------|--------------------------|
| T-0087-15 | Tail Rotor Assembly Balance | P/T |

| <i>Usage</i> |
|---|
| Static Balance Mandrel Used for static balancing the tail rotor assembly. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|----------------------|--------------------------|
| T-0100-1 | Tool SP Bushing INST | P/T |

| <i>Usage</i> |
|--|
| Swashplate Assembly Tool Press tool for inserting DU bearings in swashplate. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------|--------------------------|
| T-0102-1 | Tool, Tube | P/T |

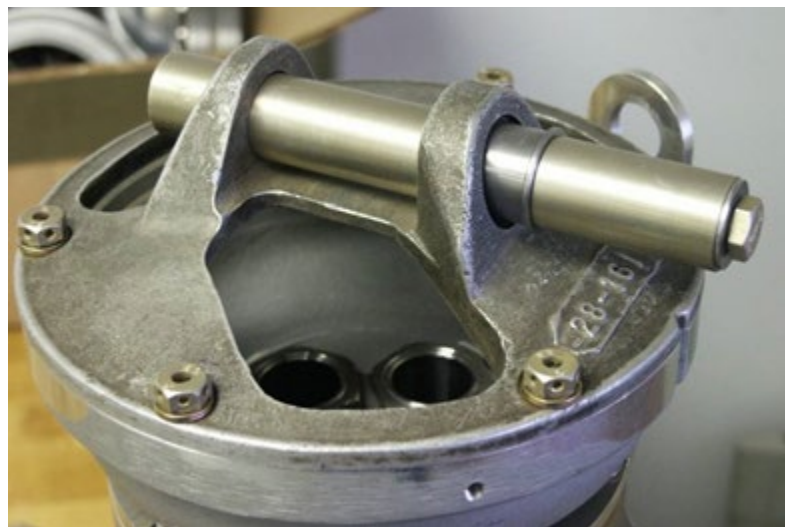
| |
|---|
| <i>Usage</i> |
| Press tools for Upper Guide Tube Removal Used to press upper guide tube assembly from upper swashplate assembly. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-------------------------------|--------------------------|
| T-0104-1 | Tool Swashplate Bushing Align | P/T |

| <i>Usage</i> |
|---|
| <p>Swashplate Bearing Installation Alignment Tool Used for aligning and installing DU bearings in swashplate assembly.</p> |

NOTE
Used to install the 28-16226 and 08-DU-08 sleeve assembly.

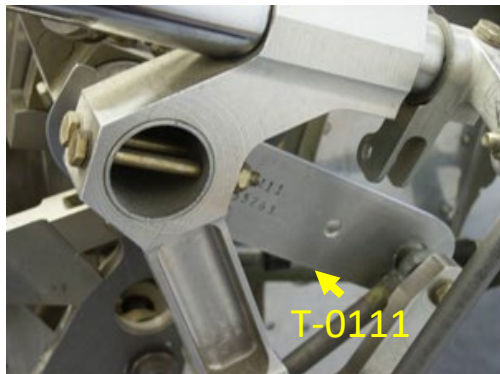


| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------------|------------------------------|
| T-0111-SET | Tool Correlator Rigging Set | P/T (C & F MODELS) |
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
| T-0113 | Tool Correlator Rigging | P/T (C & F Models) |

| |
|---|
| <i>Usage</i> |
| Used to rig the correlator summing lever on the C and F series helicopters. |
| T-0113 Throttle Stop Correlator Rigging Tool Used to set the throttle position while rigging the correlator on C and F models. |

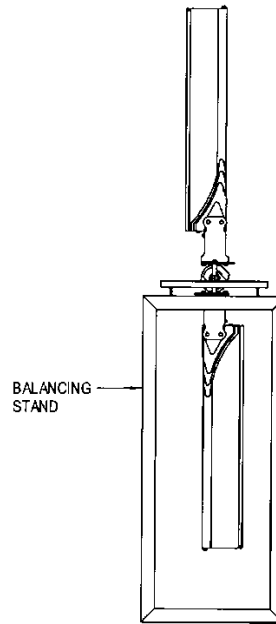
NOTE

Dimensions and drawings for these tools can be found on page MM-13-104 & 5 of the maintenance manual.



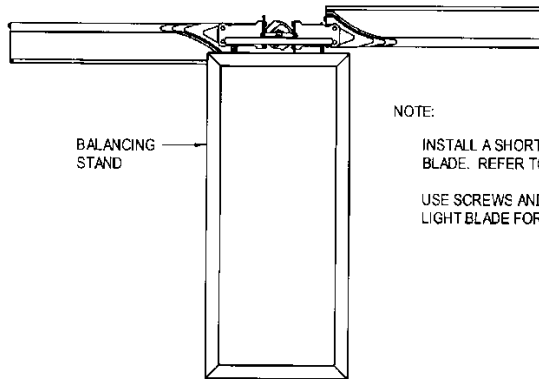
| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|---------------------------------|-------------------|
| T-0121-1 | Tail Rotor Balance Stand | P/T |

| |
|---|
| <i>Usage</i> |
| Used as a balance fixture when static balancing tail rotors. |



CORDWISE BALANCING

NOTE:
 IF THE TRAILING EDGE OF THE BOTTOM BLADE RISES, IT IS THE LIGHT BLADE. IF THE LEADING EDGE OF THE BOTTOM BLADE RISES, IT IS THE HEAVY BLADE.
 INSTALL A SHORT SCREW IN THE ROOT END OF THE HEAVY BLADE. REFER TO FIGURE 9-32.
 USE SCREWS AND WASHERS IN THE ROOT END OF THE LIGHT BLADE FOR CORDWISE BALANCE.

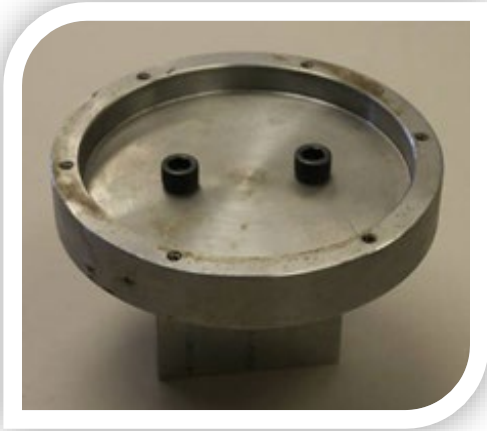


SPANWISE BALANCING

NOTE:
 INSTALL A SHORT SCREW IN THE TIP OF THE HEAVY BLADE. REFER TO FIGURE 9-32.
 USE SCREWS AND WASHERS IN THE TIP OF THE LIGHT BLADE FOR SPANWISE BALANCE.

| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------|--------------------------|
| T-0134-3 | Tool Swash Plate MOD. | P/T |

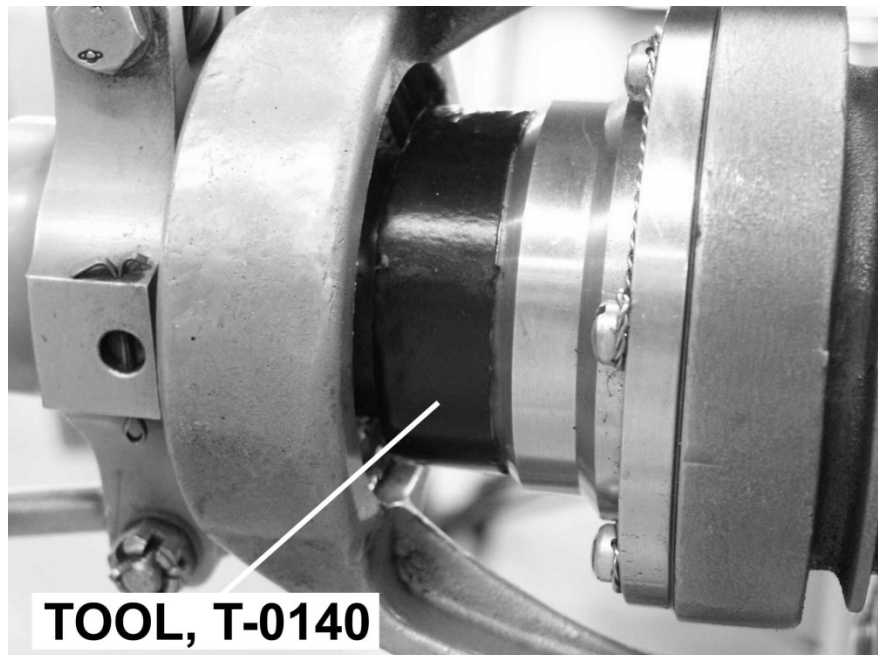
| |
|---|
| <i>Usage</i> |
| Used to secure lower swashplate during assembly. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-------------------------|--------------------------|
| T-0140 | Tail Rotor Rigging Tool | T |

Usage

Used to hold the tail rotor pitch controls in the neutral position while adjusting cable tension.



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------------|--------------------------|
| T-0149 | Grip Seal Installation Tool | P/T |

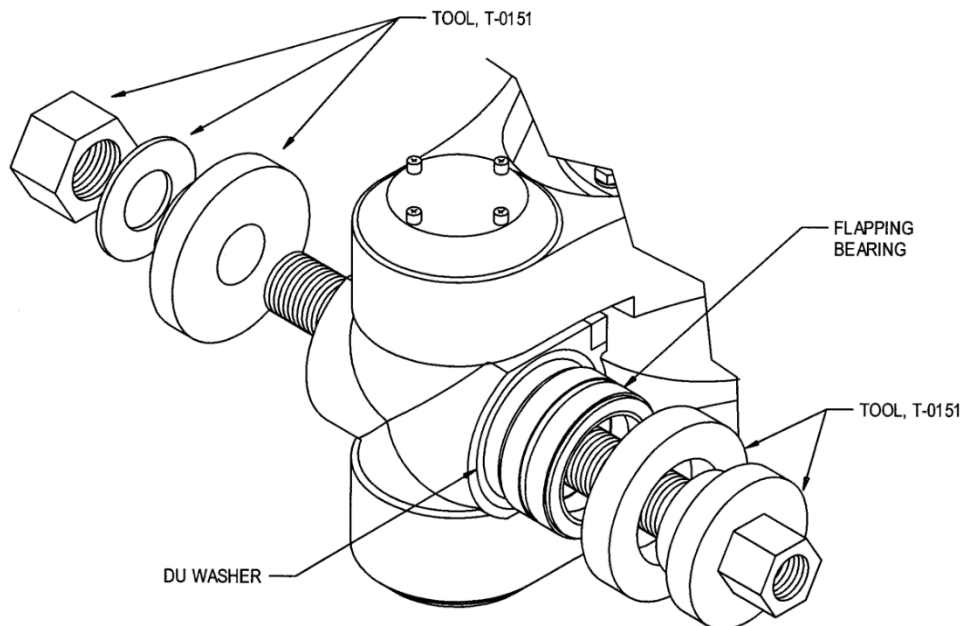
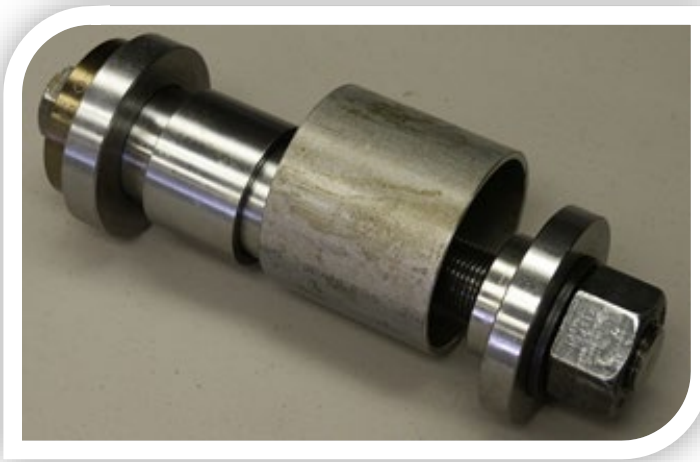
| <i>Usage</i> |
|---|
| Used to install the grip end seal on grips with TT straps, and Grip on Spindle. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|-------------------------------|-------------------|
| T-0151-1 | U-Block Bearing Tool & Access | P/T |

Usage

Used for removing and installing main rotor flapping bearings in hubs that have grease lubricated flapping bearings. T-0062-1 is used if the hub has oil lubricated bearings.



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-------------------------|--------------------------|
| T-0152 | Tail Rotor Balance Tool | P/T |

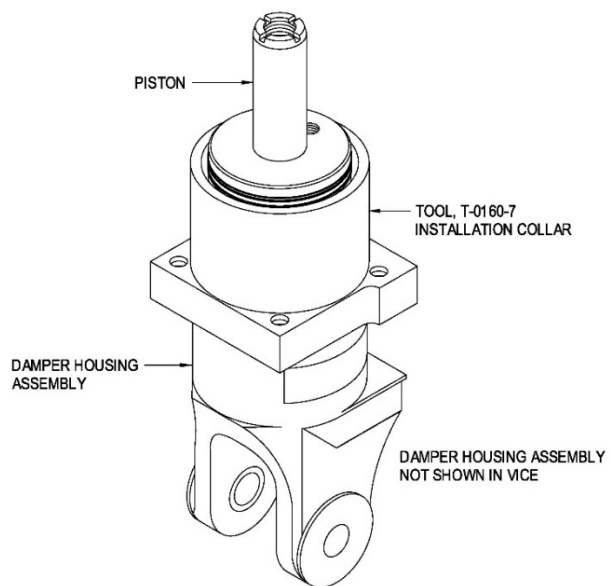
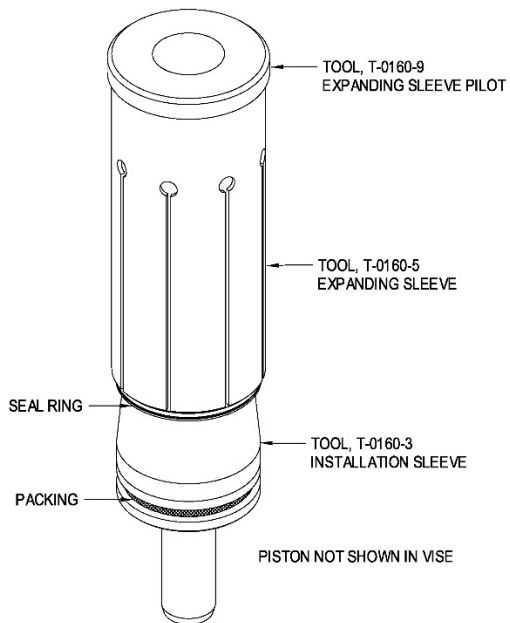
| <i>Usage</i> |
|---|
| Attaches an Optical Sensor to the TRGB Attaches to Tail Rotor Gear Box and holds Velocimeter and optical sensor for balancing tail rotor assembly. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|---------------------------|-------------------|
| T-0160-1 | Damper Piston / Seal Tool | P/T |

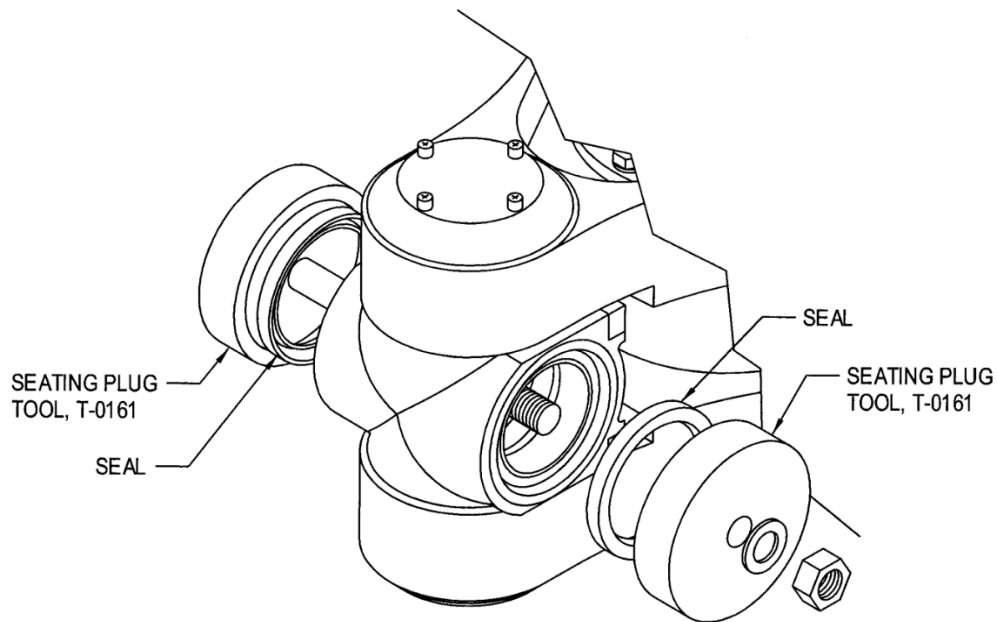
Usage

Special Tool for Assembling MR Lead-Lag Dampers
Used to compress the damper piston ring so that the piston can be assembled into the damper cylinder.



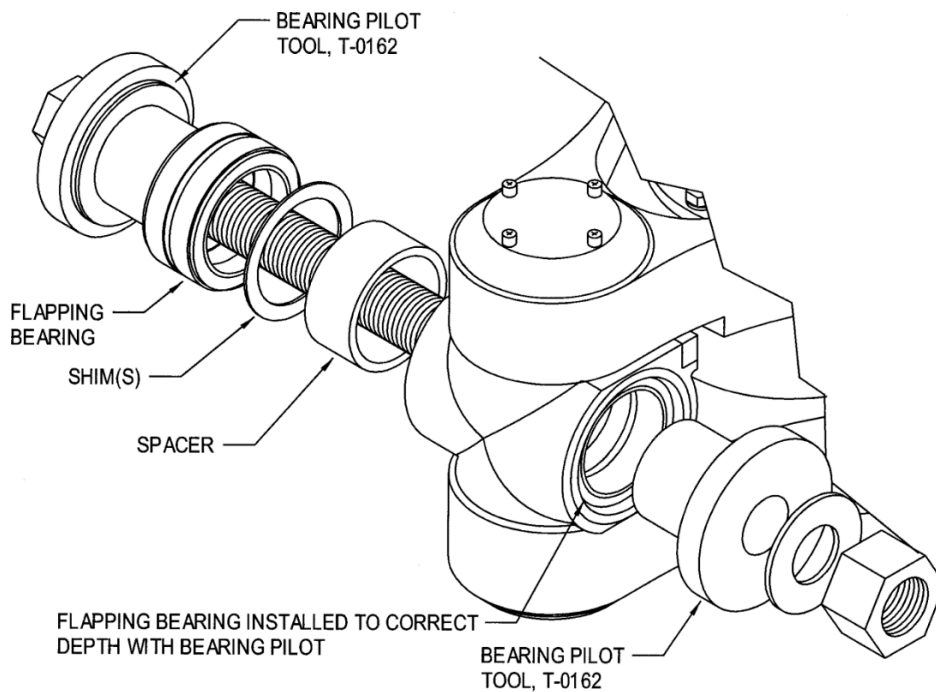
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|---------------------------------------|--------------------------|
| T-0161-1 | U-Block Seal Installation Tool | P/T |

| |
|---|
| <i>Usage</i> |
| Used to press flapping seals into the universal block. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|----------------------------|-------------------|
| T-0162-1 | Flapping Bearing INSTL Oil | P/T |

| |
|--|
| <i>Usage</i> |
| Used to press flapping bearings into and out of the universal blocks. |



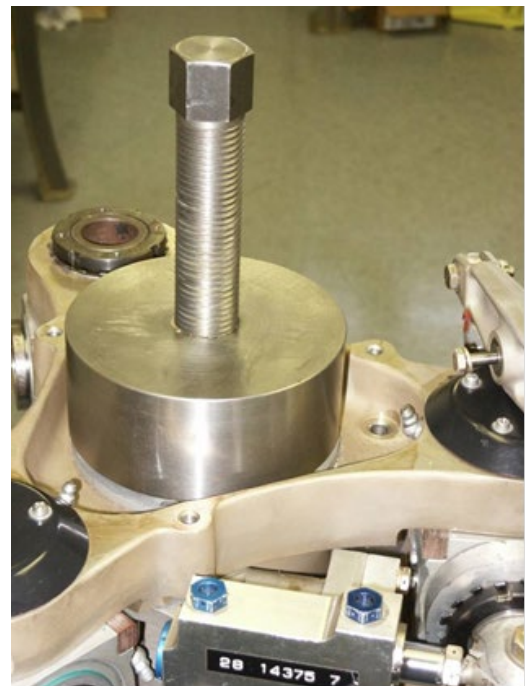
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------------|--------------------------|
| T-0168-1 | Tool-Tailrotor Blade ASSY HLDR | P/T |

| |
|---|
| <i>Usage</i> |
| Used to hold the tail Rotor assembly for assembly and disassembly. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------|--------------------------|
| T-0174-1 | Tool: Hub Puller | P/T |

| <i>Usage</i> |
|--|
| Secures to the Main Rotor hub and pulls it from the transmission shaft. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------------|--------------------------|
| T-0195-1 | L-Bracket Reflector ASSY.Blade | P/T |

Usage

Used with a strobe light while tracking the helicopter.



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|--------------------------|-------------------|
| T-0197-7 | TORQ Multiplier Assembly | P/T |

| |
|---------------------------------|
| <i>Usage</i> |
| Used to loosen mast nut. |

| |
|---|
| NOTE |
| All four components make up the Torque Multiplier assembly. |



T-0197-2 Socket & Adapter



T-0197-23 Reaction Adapter



6202A Reaction bar TQ Multiplier

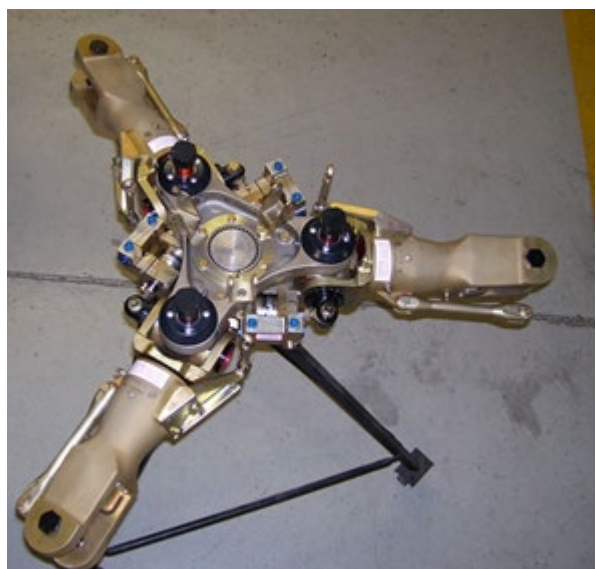


Torque Multiplier assembly

| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|----------------------|--------------------------|
| T-0224 | Main Rotor Hub Stand | P/T |

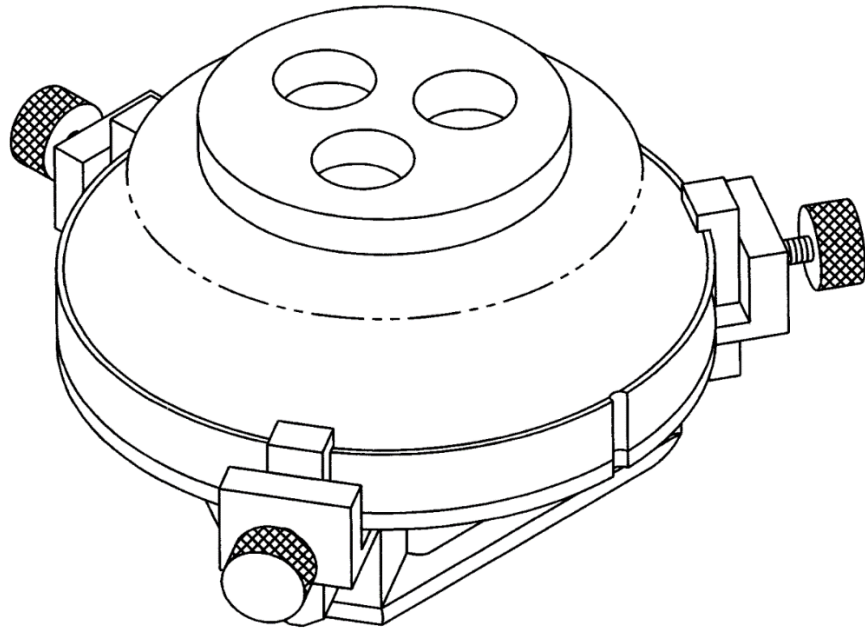
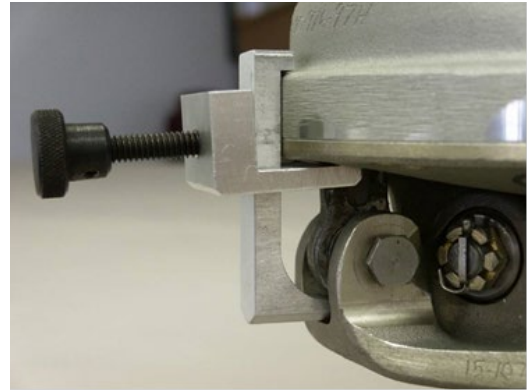
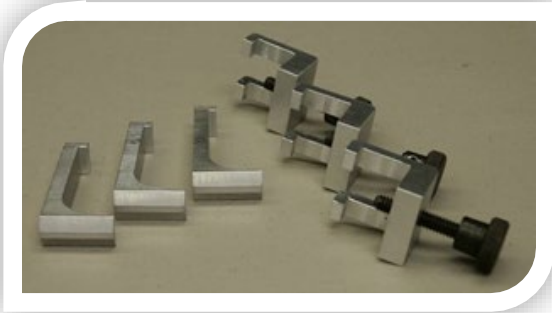
Usage

Used to hold the assembled rotor hub when removed from the aircraft.



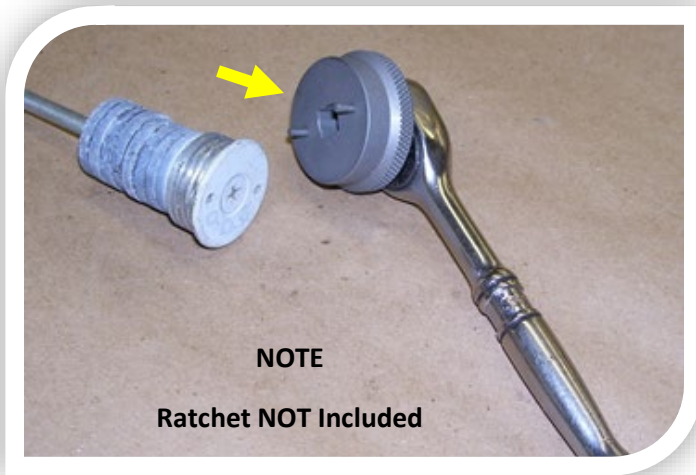
| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|---------------|---------------------------|-------------------|
| T-1575 | Swashplate Centering Tool | P/T |

| |
|--|
| <i>Usage</i> |
| Used to hold lower swashplate in centered position while rigging the controls. |



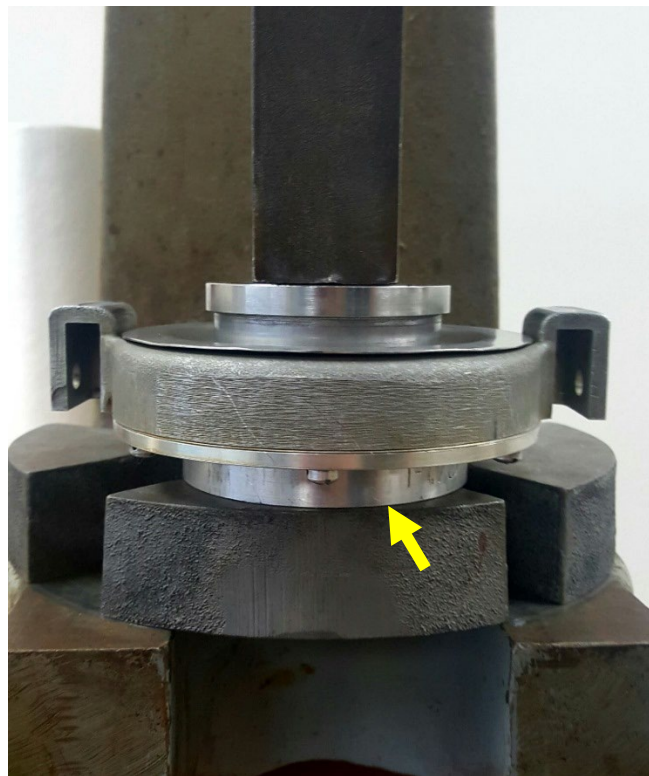
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-------------------------------|--------------------------|
| T-1656-3 | Tool ¼" Drive M.R. Blade Plug | P/T |

| <i>Usage</i> |
|---|
| Used to remove weight plugs from blade pockets. |



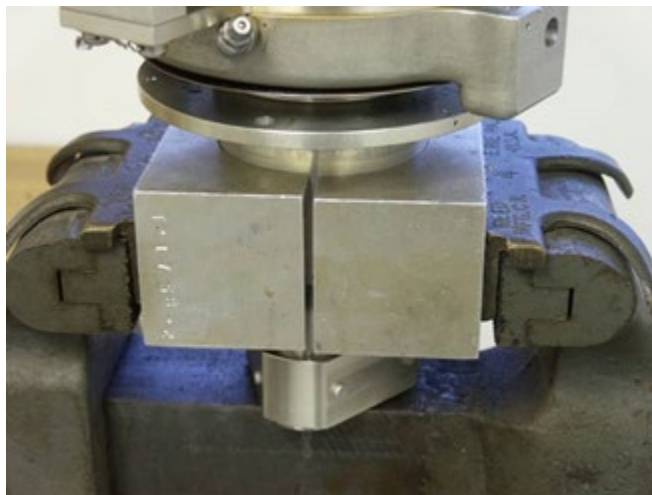
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-------------------------------|--------------------------|
| T-1709 | Tool Guidetube Bearing Collar | P/T |

| <i>Usage</i> |
|--|
| Used to support the upper swashplate bearing housing while removing and installing the bearing. |



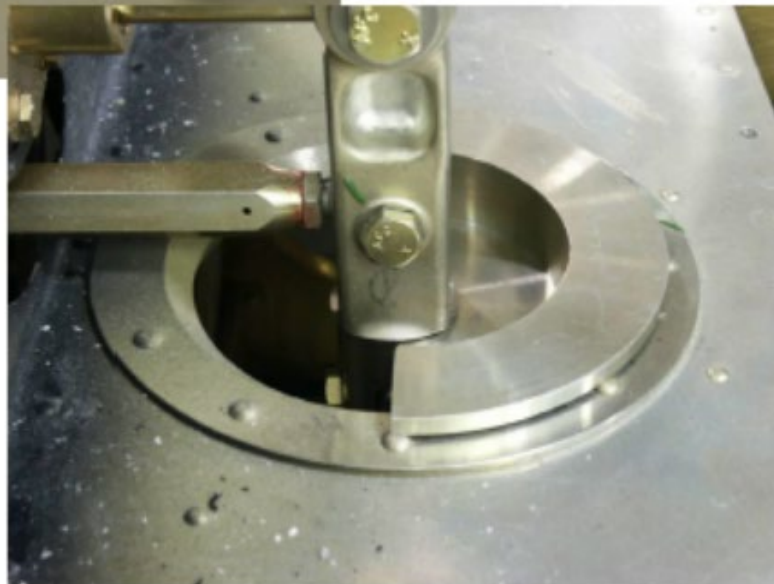
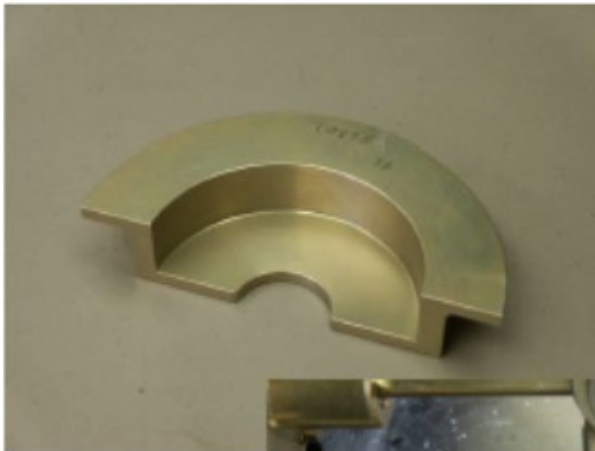
| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|---------------|-------------------------------|-------------------|
| T-1758 | Tool Guidetube DISASSY Clamps | P/T |

| <i>Usage</i> |
|---|
| Used to hold the upper swashplate assembly while performing maintenance. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------------|--------------------------|
| T-1775 | Locator – Cyclic Fitting Stick | P |

| <i>Usage</i> |
|--|
| Used to hold the cyclic in the neutral position while rigging the cyclic controls. |



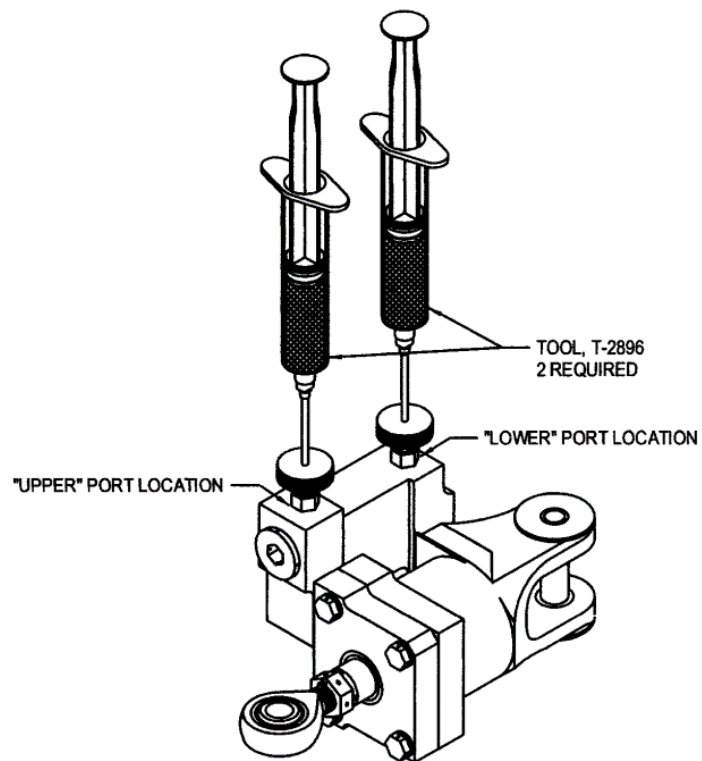
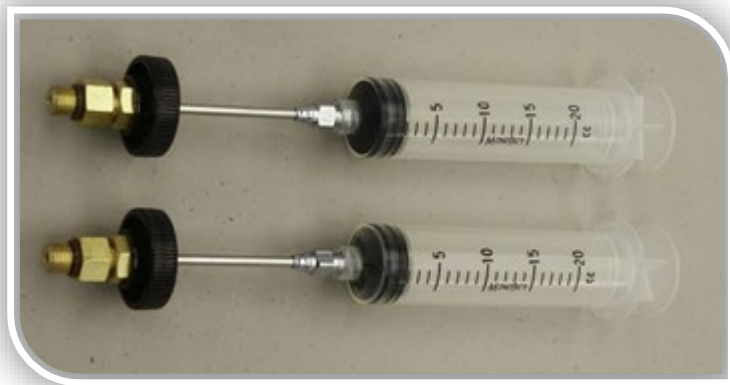
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------------|--------------------------|
| T-2893 | Tool Puller T/R Teeter Bearing | P/T |

| |
|--|
| <i>Usage</i> |
| Used to remove teeter bearings on tail rotor assembly. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|--------------------------|-------------------|
| T-2896-1 | Damper Bleeding Tool Set | P/T |

| |
|---|
| <i>Usage</i> |
| Special tools used to bleed air from hydraulic main rotor dampers. |



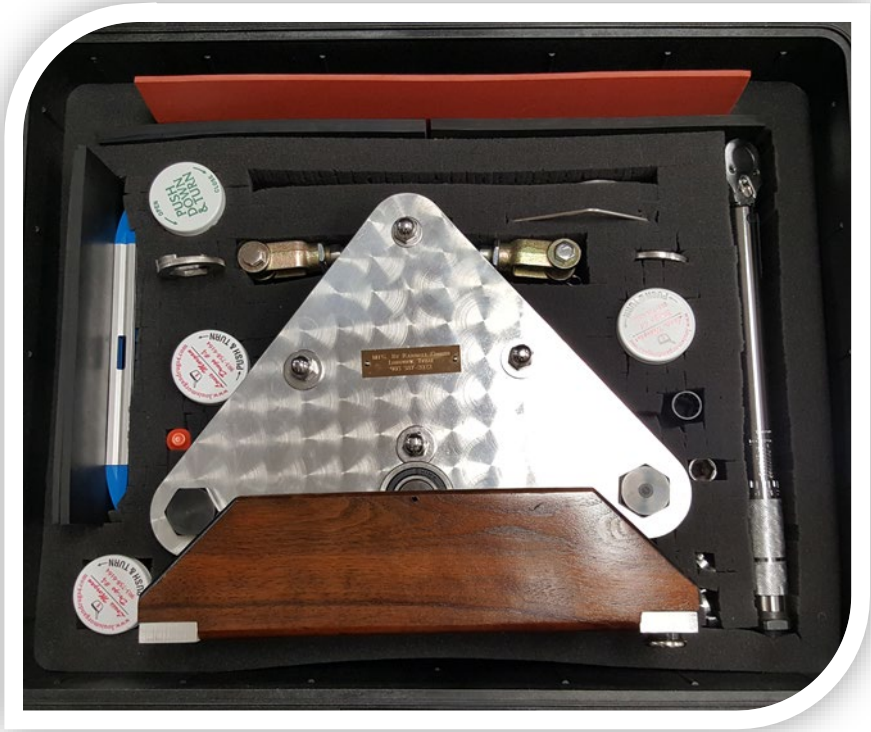
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|---------------------|-----------------------------|--------------------------|
| T-4167511-15 | Cyclic Centering Tool (FWD) | T |
| T-4167511-17 | Cyclic Centering Tool (AFT) | T |

| |
|---|
| <i>Usage</i> |
| . Used to hold the cyclic in the neutral position while rigging the cyclic controls. Order both to make complete set. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-------------|-------------------------------|-------------------|
| NPN | Main Rotor Blade Balance Tool | P/T |

| <i>Usage</i> |
|--|
| Used to statically balance the main rotor blades. |



Section-2 Drive Train and Powerplant

| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|------------------------|--------------------------|
| T-0017 | Transmission Hoist Eye | P/T |

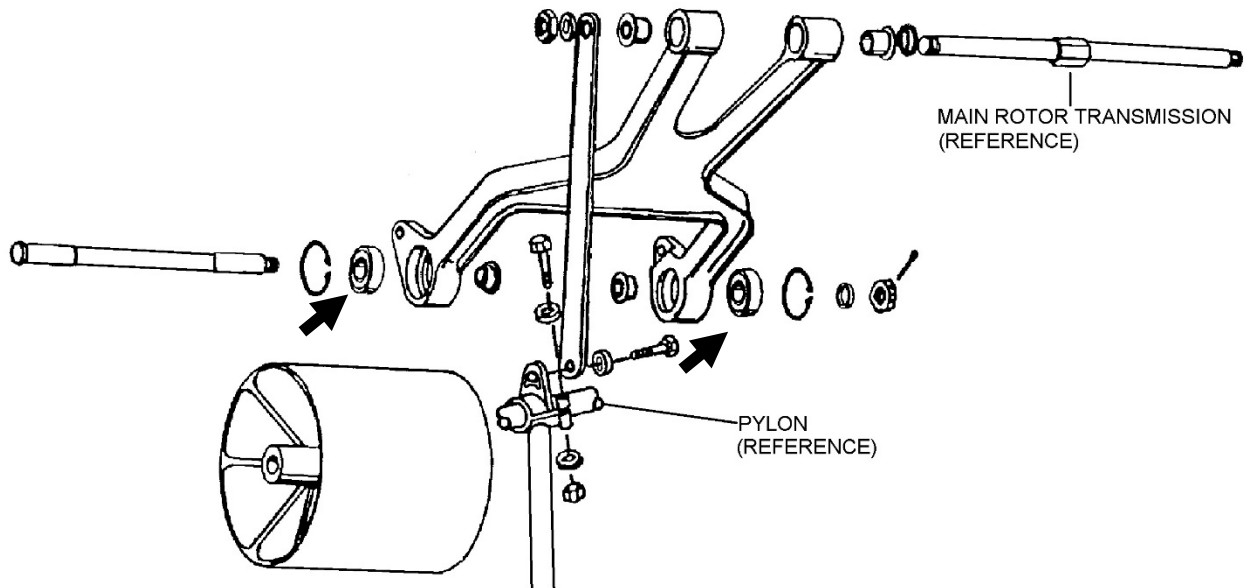
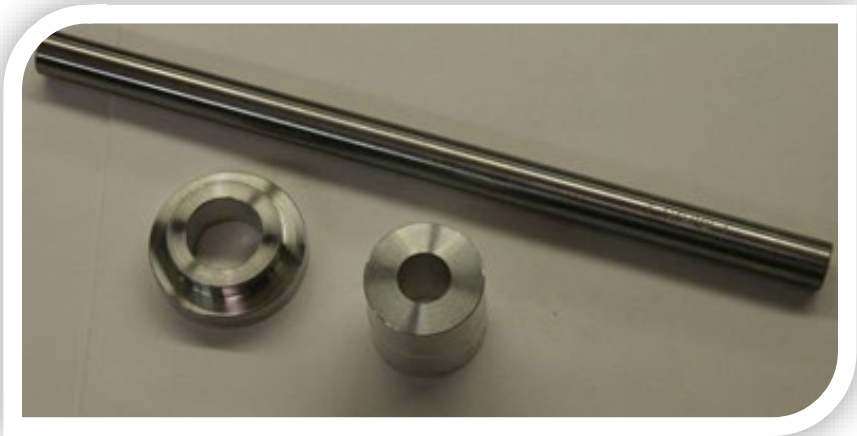
Usage

Used to sling main transmission when the hub is not installed.



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-------------------|-------------------------------|-------------------|
| T-0029-SET | Tool Shaft & Collar Extractor | P |

| |
|---|
| <i>Usage</i> |
| Used to support and align the idler pulley bearings while removing and installing bearings. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------------|--------------------------|
| T-0044 | Tool Drive Pulley Alignment | P |

| <i>Usage</i> |
|--|
| Used to check and adjust alignment of upper and lower pulley in piston aircraft. |

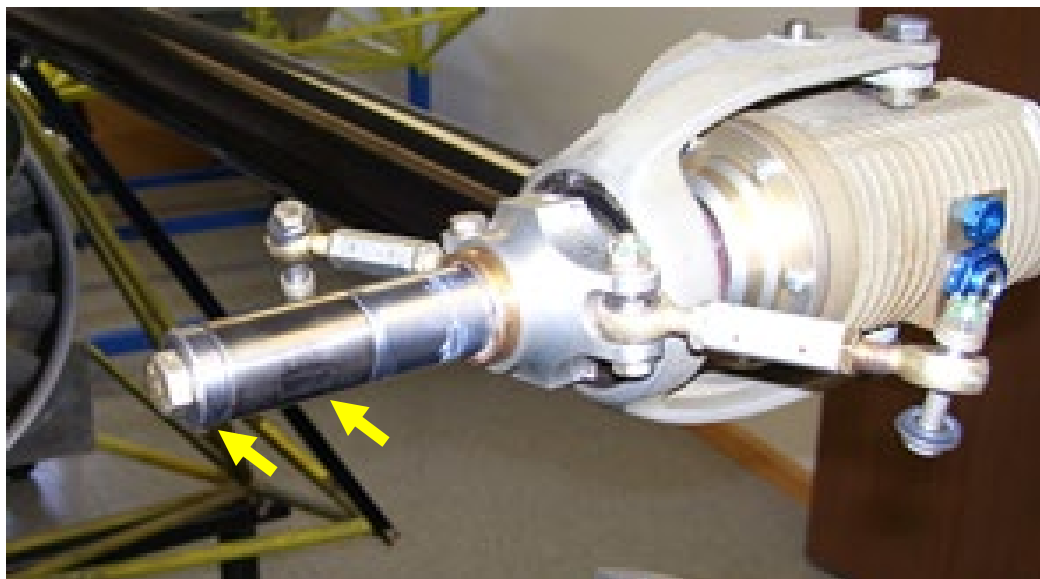
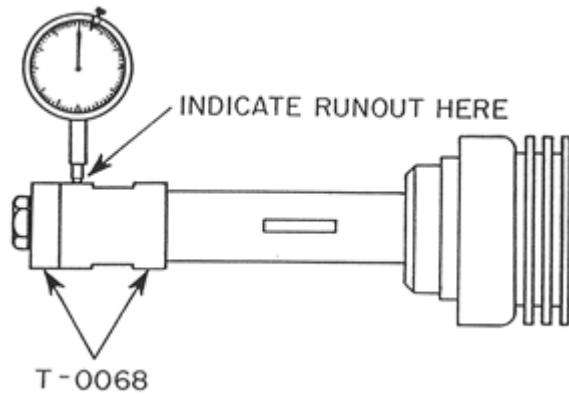
NOTE

If AG pulley is installed on the aircraft use the T-0044—AG Tool



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------------|--------------------------|
| T-0068-3 | T.R. Output Shaft Indicator | P/T |

| |
|--|
| <i>Usage</i> |
| Used to measure runout on TRGB shaft with dial gauge. |



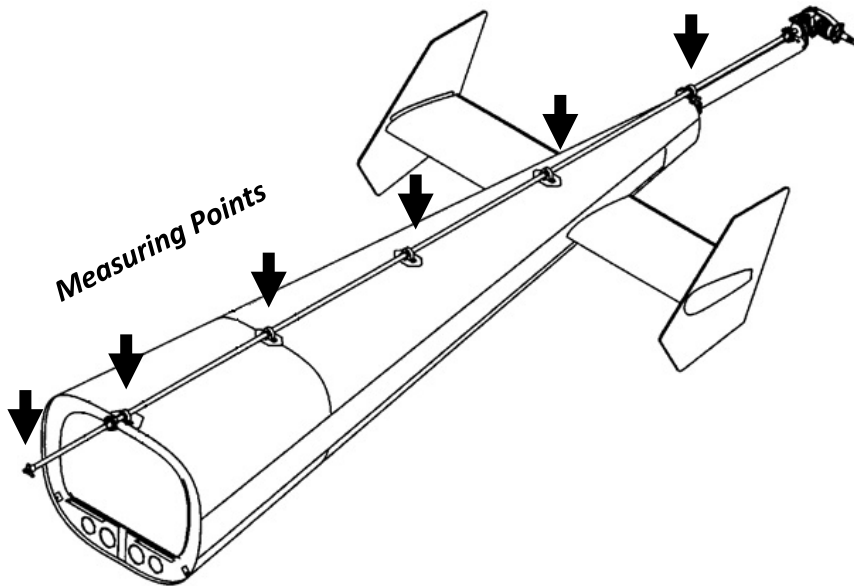
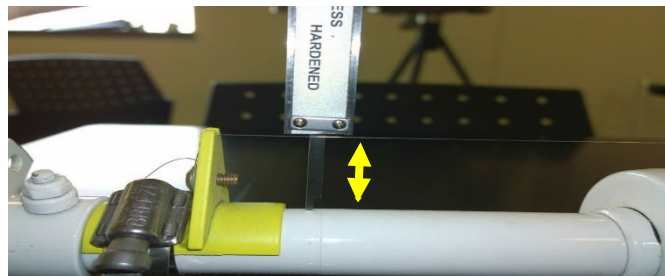
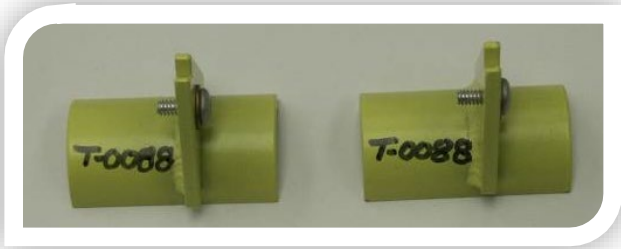
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|---------------------------|--------------------------|
| T-0078 | Engine Oil Adapter Wrench | P |

| <i>Usage</i> |
|--|
| Used to install the oil filler tube adapter into the crankcase of the Lycoming engine. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|-----------------------------|-------------------|
| T-0088 | TR Drive Shaft ALIGNM'T (P) | P |
| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
| T-0143-1 | TR Drive Shaft ALIGNM'T (T) | T |

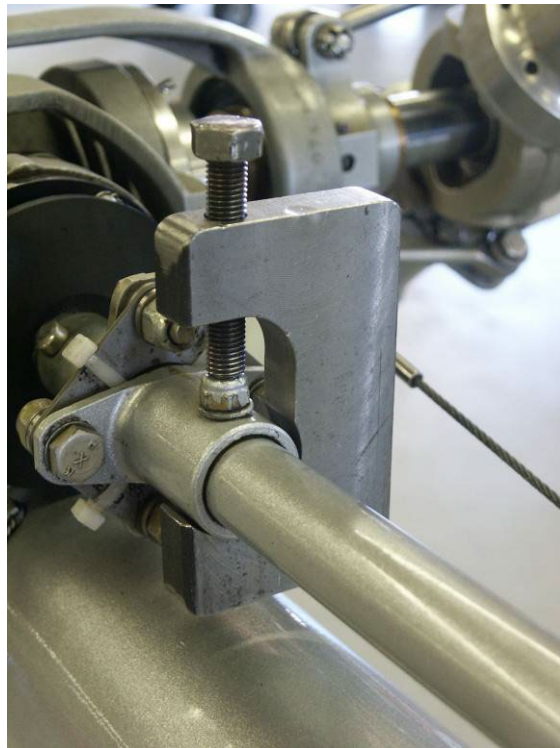
| |
|---------------------------------------|
| <i>Usage</i> |
| Used to align tail rotor drive shaft. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|------------------------|--------------------------|
| T-0092-5 | Taper Pin Removal Tool | P/T |

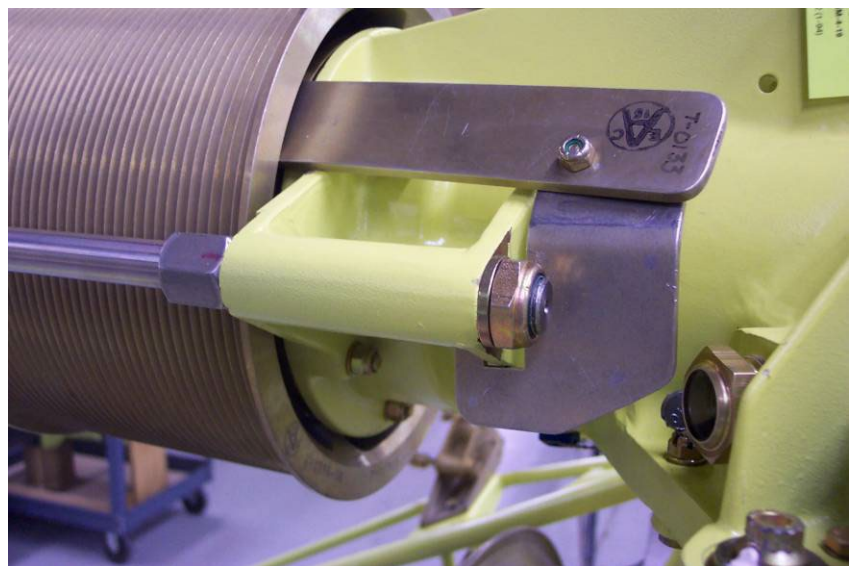
Usage

Used to remove taper pins from TR drive shaft without damaging them.



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|----------------------------|-------------------|
| T-0133-1 | Pulley Restraint Tool ASSY | P |

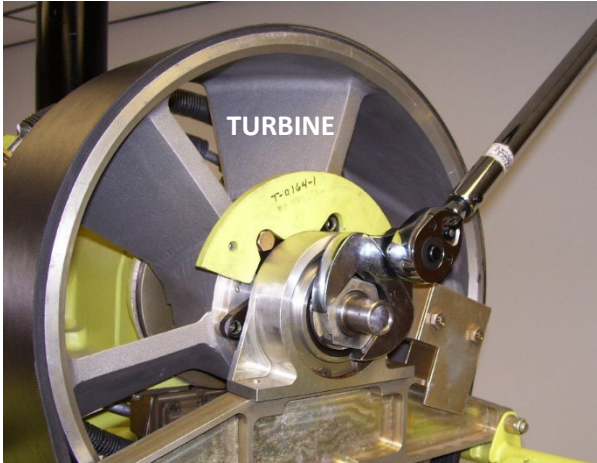
| <i>Usage</i> |
|---|
| Used to hold the upper pulley while installing the pinion nut on piston main rotor transmission. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|---------------------|-------------------------------|-------------------|
| T-0135-1-SET | Pinion Nut Crowfoot & Adapter | P/T |

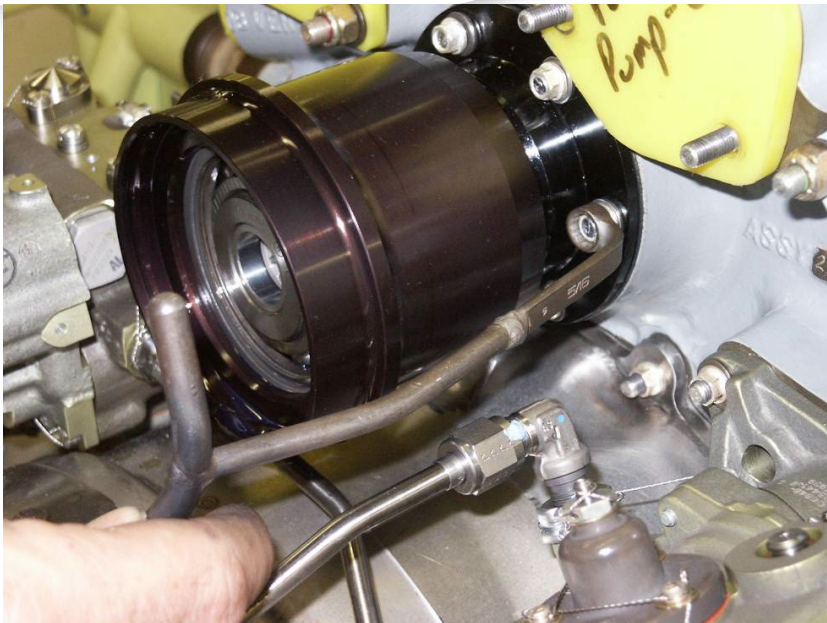
| |
|---|
| <i>Usage</i> |
| Used to Torque the Main Transmission Pinion Nut. |

NOTE
 Includes the T-0135-13
 3/4"Adapter.
 Order the T-0135-11 for
 Crowfoot only.



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|---------------------------|--------------------------|
| T-0136-1 | O.R.Clutch Housing Wrench | T |

| <i>Usage</i> |
|--|
| <p>5/16 Special Wrench Used to removing and installing overrunning clutch support bearing hardware.</p> |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------|--------------------------|
|--------------------|--------------------|--------------------------|

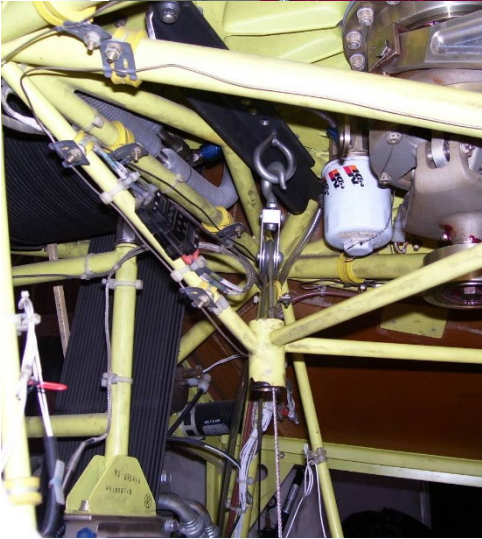
T-0137-1

Engine Hoist

T

Usage

Used to remove and install the Turbine engine.



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|--------------------|-------------------|
| T-0139-1 | Belt Tension Gauge | T |

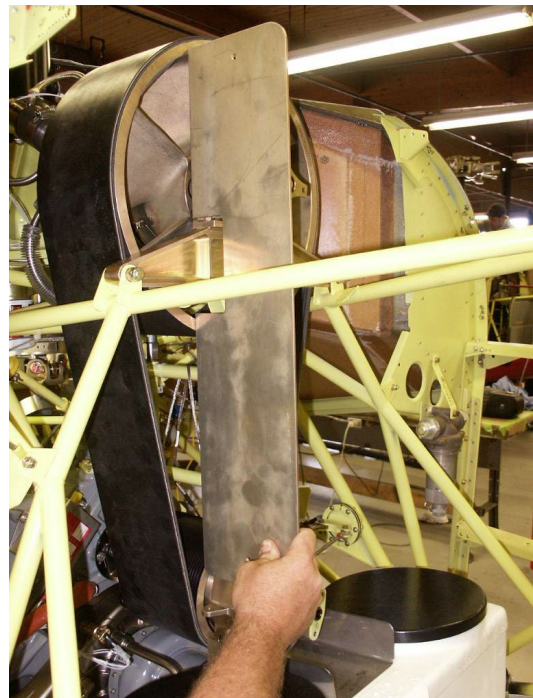
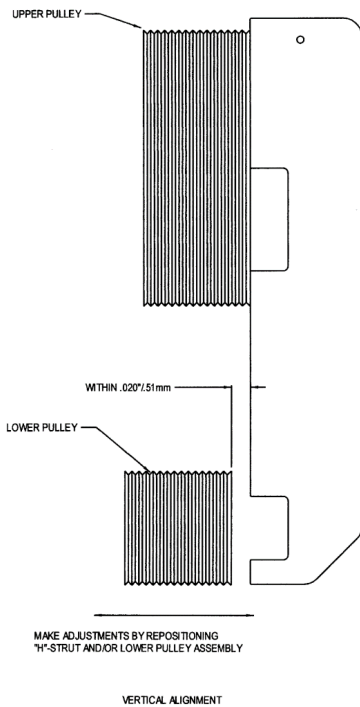
Usage
Used to measure the drive belt tension.

Calibrated Tool
This must be sent back to Enstrom for calibration.



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|---------------|-----------------------------|-------------------|
| T-0141 | Drive System Alignment Tool | T |

| |
|---|
| <i>Usage</i> |
| Used to align the lower belt pulley. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|----------------------------|--------------------------|
| T-0153-1 | Tool Fan Balance 2000 CHAD | P |

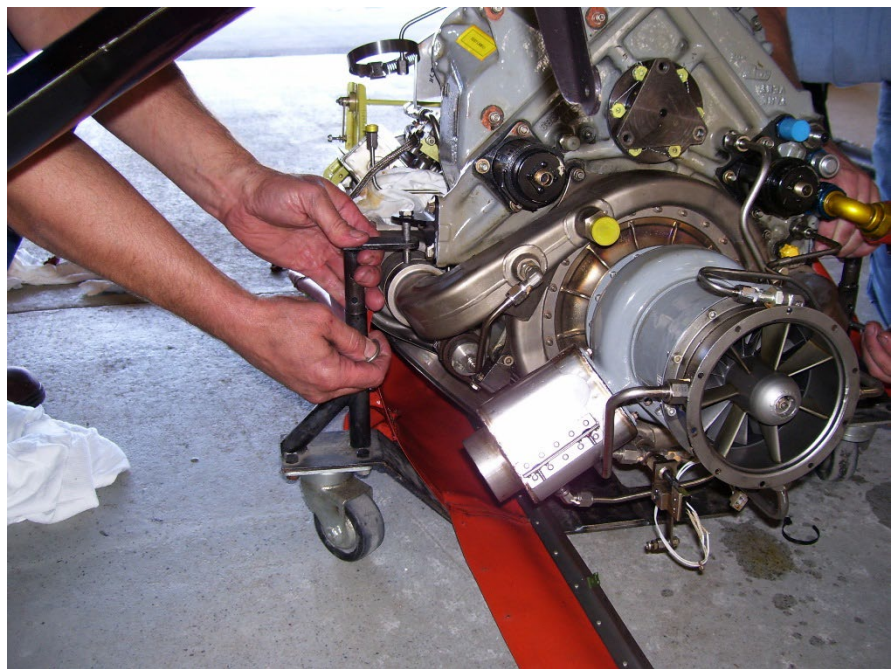
Usage

Attaches to pylon aft of fan and holds optical sensor to balance engine fan assembly.



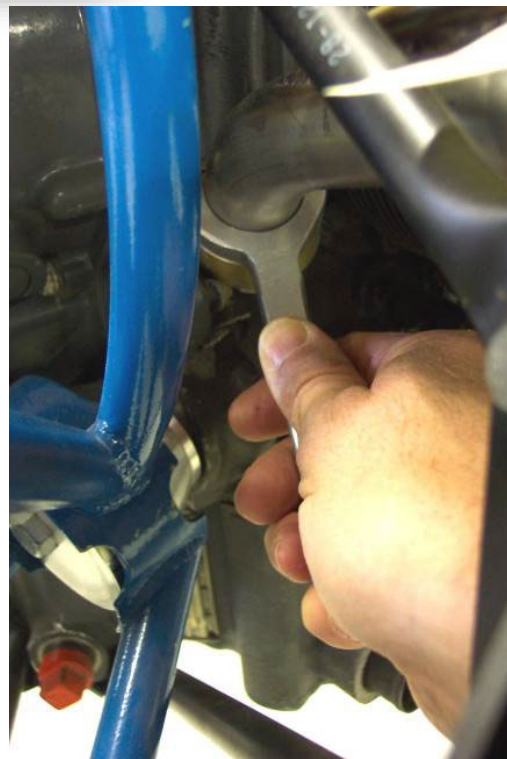
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------------|--------------------------|
| T-0154-1 | Tool Turbine Engine TRAN.DOLLY | T |

| <i>Usage</i> |
|--|
| <p align="center">Turbine Engine Dolly Used to support engine while installing in helicopter.</p> |



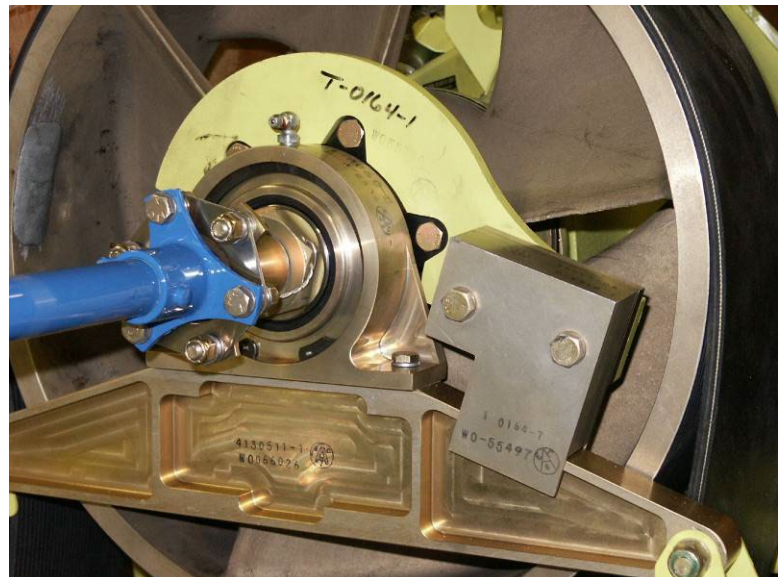
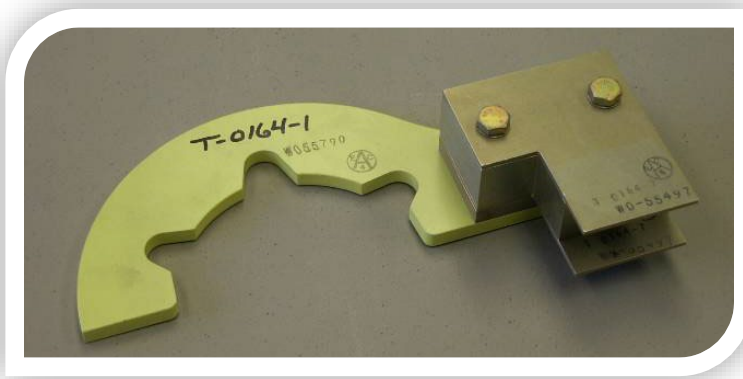
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------------|--------------------------|
| T-0156 | Wrench, Oil Filler Tube Piston | P |

| <i>Usage</i> |
|---|
| Wrench used to install or remove engine oil filler neck on piston engines. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|-------------------------------|-------------------|
| T-0164-1 | Upper Pulley Restraining Tool | T |

| |
|---|
| <i>Usage</i> |
| Special Wrench to Hold Main Rotor Transmission Pinion Shaft Used to hold the upper pulley while removing or installing the pinion nut. |



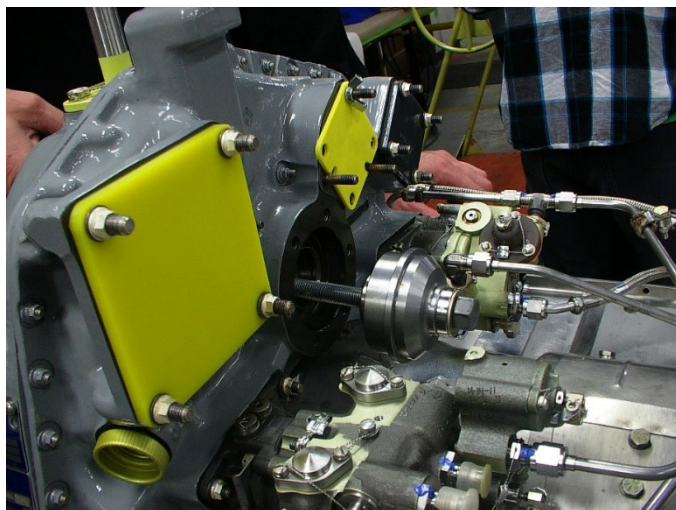
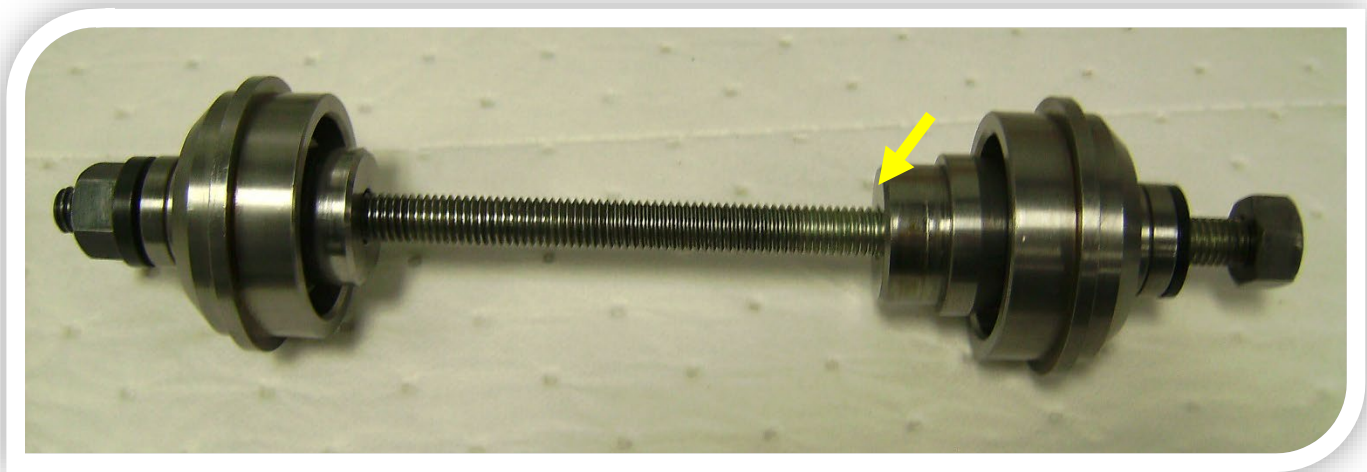
| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|------------------|----------------------------|-------------------|
| T-0166-11 | Oil Cooler Shaft Alignment | T |

| Usage |
|--|
| <p align="center">Blower Short Shaft Alignment Tool Used for holding the short shaft while aligning the engine oil cooler blower assembly.</p> |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|---------------------------------|-------------------|
| T-0172-1 | Seal Tool INSTL. Turbine Engine | T |

| |
|---|
| <i>Usage</i> |
| Double Lip Seal Installation Tool Used to install Rolls Royce Double Lip seal in engine gearbox. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|---------------------|--------------------------|
| T-0177-11 | Cover, Lower Plenum | T |

| <i>Usage</i> |
|--|
| Used to protected lower plenum from FOD during maintenance. |



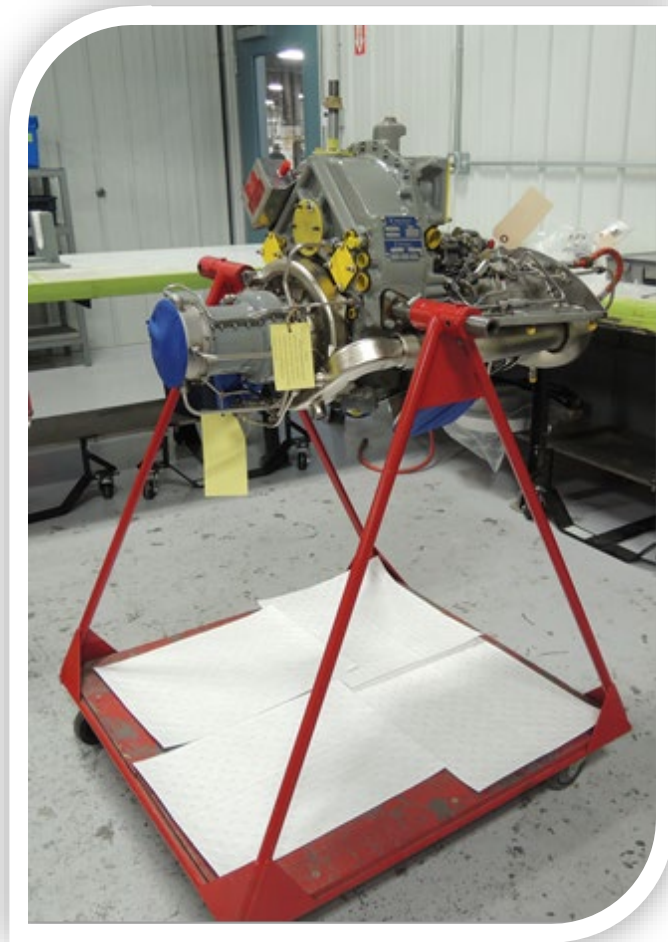
| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|---------------|---------------------------|-------------------|
| T-0179 | Magneto Spring INSTL.Tool | P |

Usage
Used to insert springs in the magneto distributor block.



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------|--------------------------|
| T-0182-1 | Stand, Turbine Engine | T |

| <i>Usage</i> |
|--|
| Rolls Royce Engine Support Stand Used to support engine while performing maintenance. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|-------------------------------|-------------------|
| T-0186-1 | Overrunning BRG/SEAL Tool Set | T |

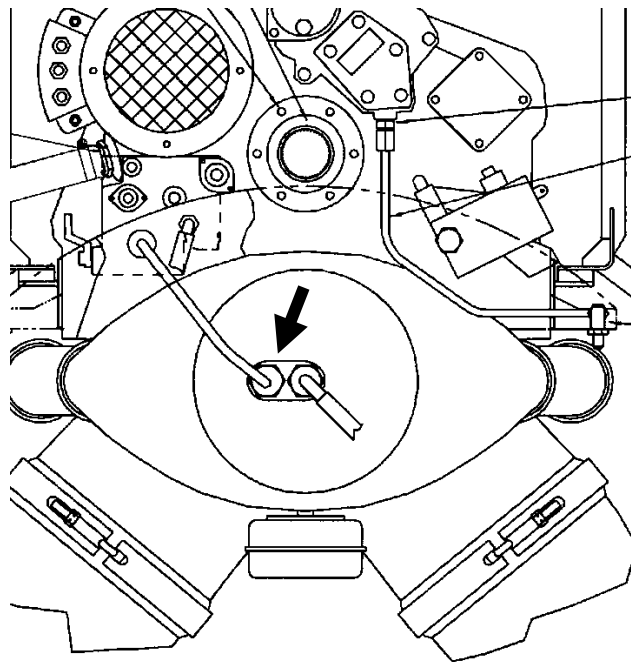
| <i>Usage</i> |
|---|
| Used to remove & install support bearings in the overrunning clutch and internal drive shaft assemblies. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------|--------------------------|
| T-0187-1 | Fuel Nozzle Wrench | T |

Usage

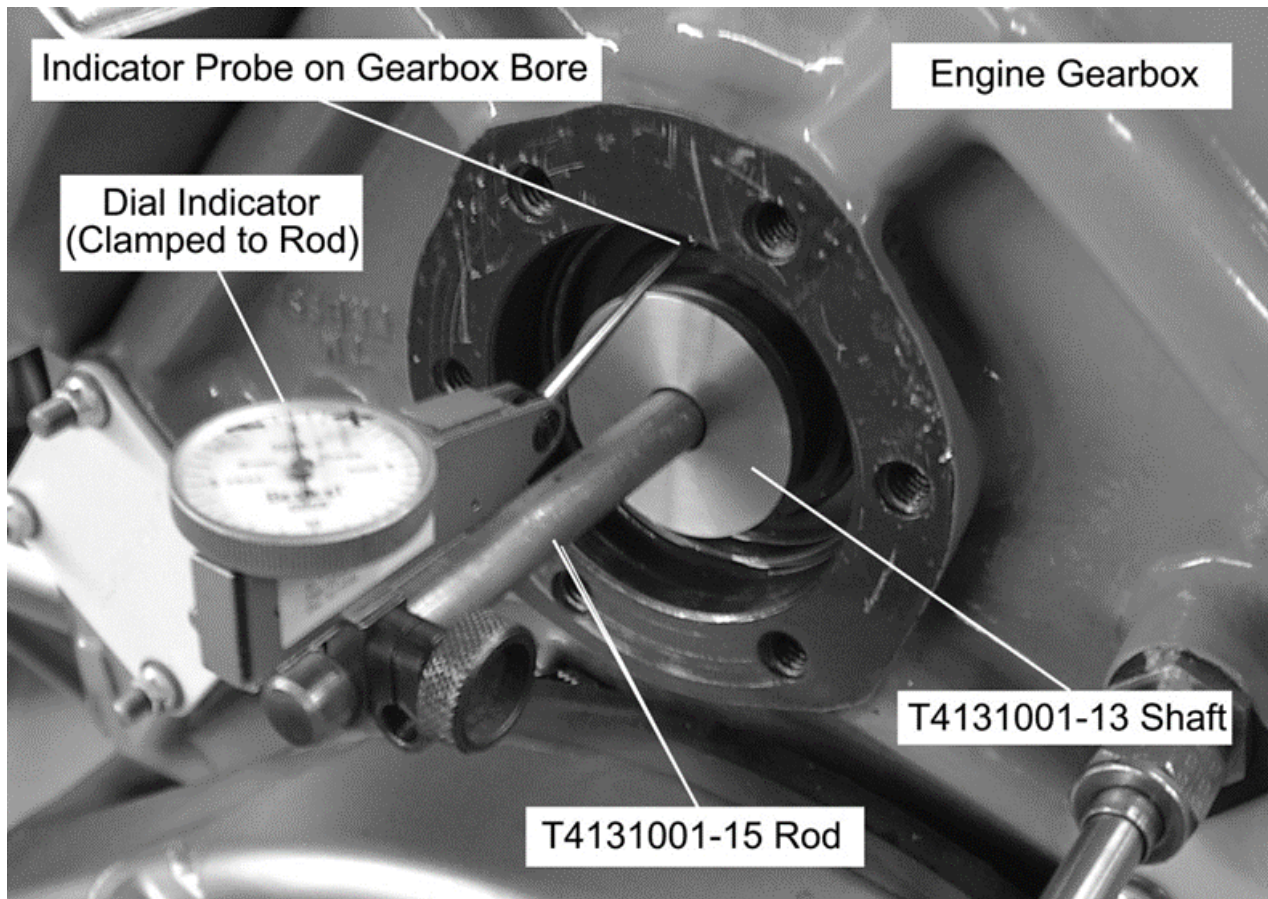
Used to remove and install fuel nozzle from engine while the engine is installed in the helicopter.



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|---------------------------------|-------------------------------------|
| T-0194-1 | Bore Concentricity IND. ToolSet | T (S/N 5131 & Subsequent) |

Usage

Measure the engine/gearbox assembly PTO shaft bores with tool kit T-0194-1 (Bore Concentricity Indicator Tool Set). This kit includes P/N T4131001-7 bore measurement assembly, a dial gauge assembly, clamp assembly, and articulating arm assembly.



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------------------|--------------------------|
| T-0196-1 | M.R. Mast Runout Dial IND.Tool | P/T |

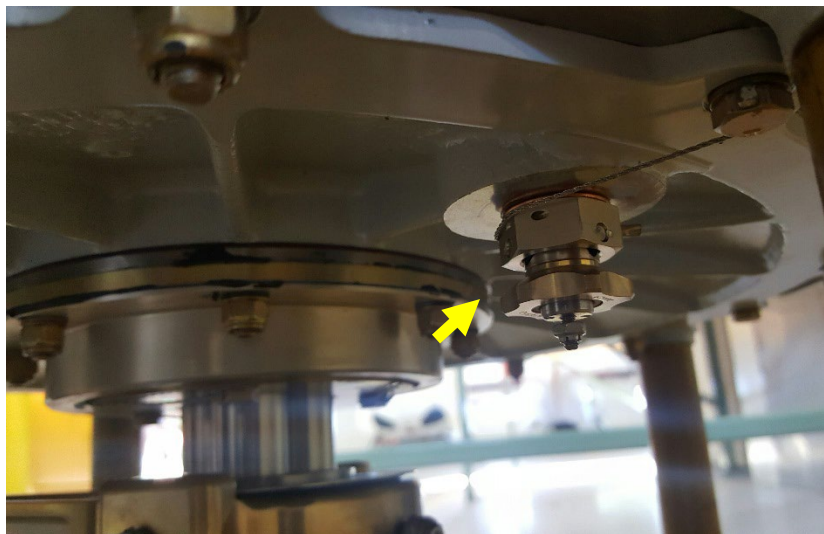
Usage

**Tool to Measure Runout on Main Rotor Shaft
Used to support dial gauge to measure main rotor gearbox shaft
runout.**



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-------------------------|---|
| T-0198-11 | Enabler, Oil Drain MRGB | P/T (Pistons with -9 MRGB & Higher. All Turbines) |

| <i>Usage</i> |
|---|
| Used to drain oil from the Main Rotor Gearbox. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|---------------------------|--------------------------|
| T-0204 | Fan Shroud Alignment Tool | P |

Usage

Used to hold the fan shroud in the proper position while the hardware is installed. The mechanic can reach through the holes in the tool to install the inside hardware. It needs to be about 3/16 inch larger in diameter then the fan



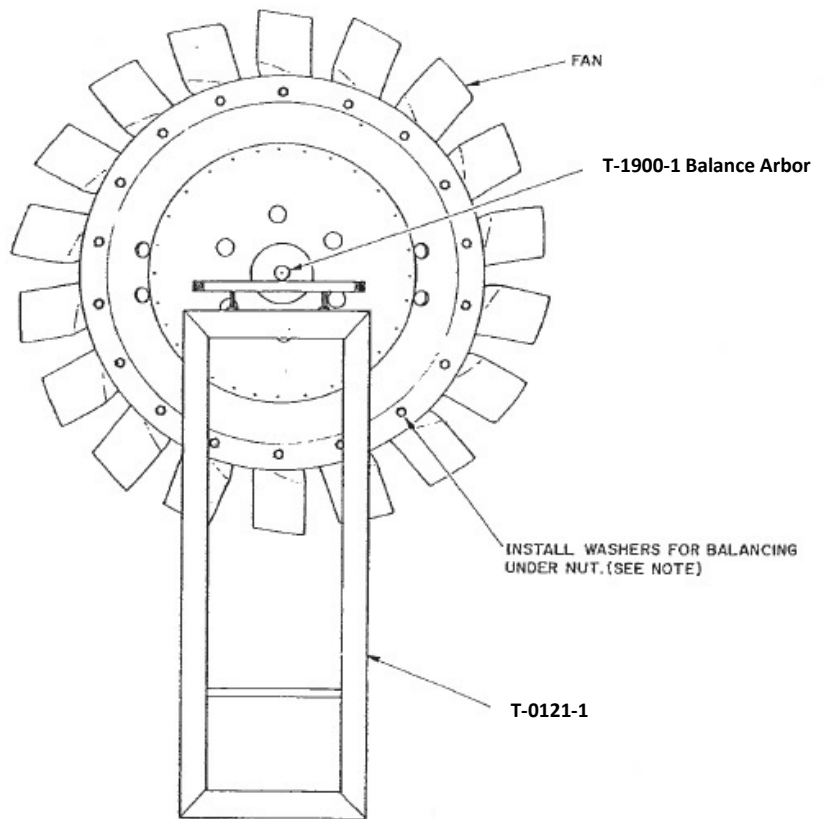
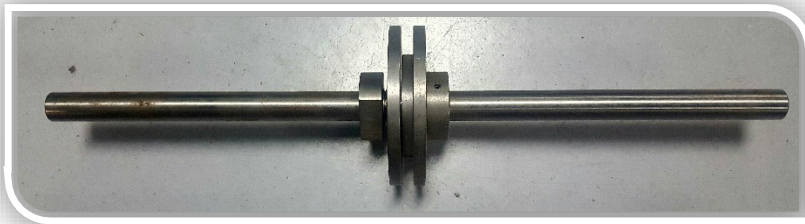
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-------------------------------|--------------------------|
| T-0213 | Main Rotor Transmission Dolly | P/T |

| |
|---|
| <i>Usage</i> |
| Used to store and move main rotor transmissions. |



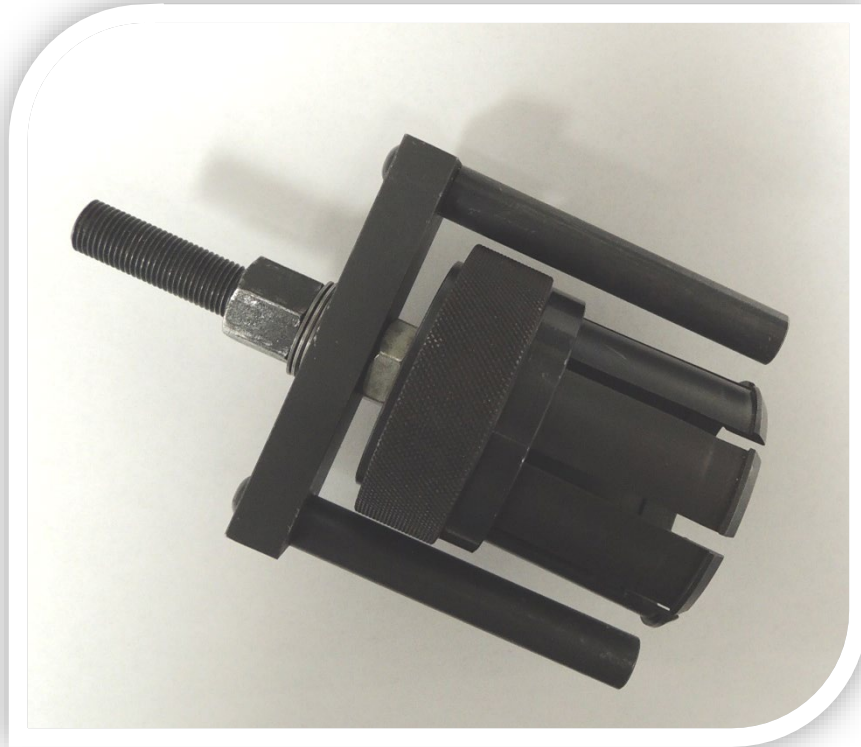
| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|--------------------|-------------------|
| T-1900-1 | Fan Balancing Tool | P |

| |
|--|
| <i>Usage</i> |
| Used with T-0121-1 to statically balance the cooling fan. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|------------------------|--------------------------|
| RBT18560 | Double Lip Seal Puller | T |

| <i>Usage</i> |
|---|
| <p align="center">Double Lip Seal Puller Used to remove Double Lip seals from engine PTO bore.</p> |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-------------------------------|--------------------------|
| NPN | Overrunning Clutch Purge Tool | P |

Usage

Used to purge sprag clutch assembly during servicing.



STEP-1



Use a 1/4-28 right angle zerk fitting.

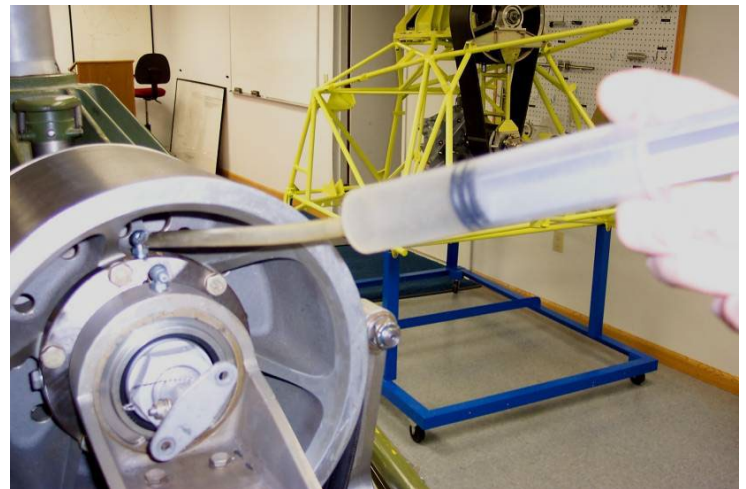
Unscrew the end and discard the check ball, and spring.

Turn the clutch so that one plug-bolt is at the 12 o'clock position and one is at either the 3 or 9 o'clock position.

Remove the top plug-bolt, and one of the side plug-bolts. Install the modified zerk fitting into the top hole.

Using a suitable oil pump can, or syringe, push a sufficient amount of turbine engine oil into the clutch until the oil that runs out of the side hole appears clean.

Replace the plug-bolt in the clutch assembly.

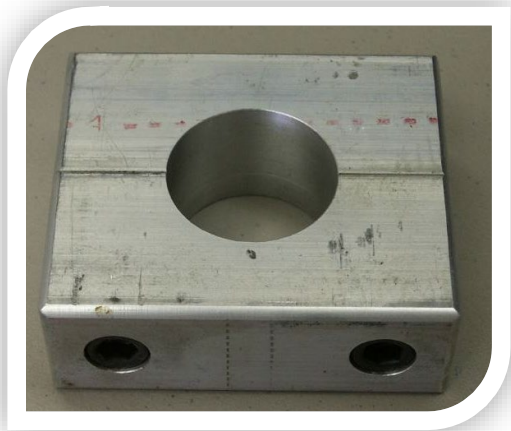


Sec-3 Miscellaneous

| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|---------------|-------------------|-------------------|
| T-0035 | Oleo Holding Tool | P/T |

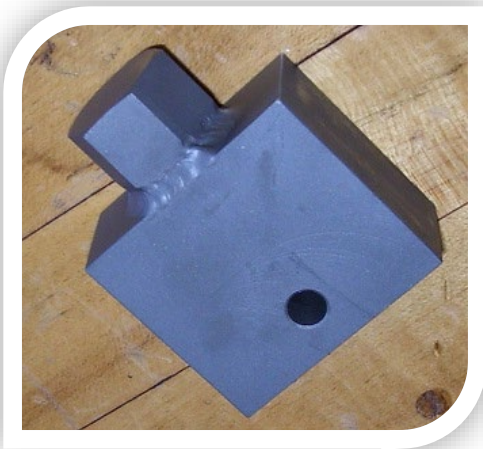
Usage

Special Wrench for Landing Gear Oleos. Used to hold the Seal Housing Assembly while disassembling the landing gear oleos.



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|-----------------------|--------------------------|
| T-0169-1 | Oleo Disassembly Tool | P/T |

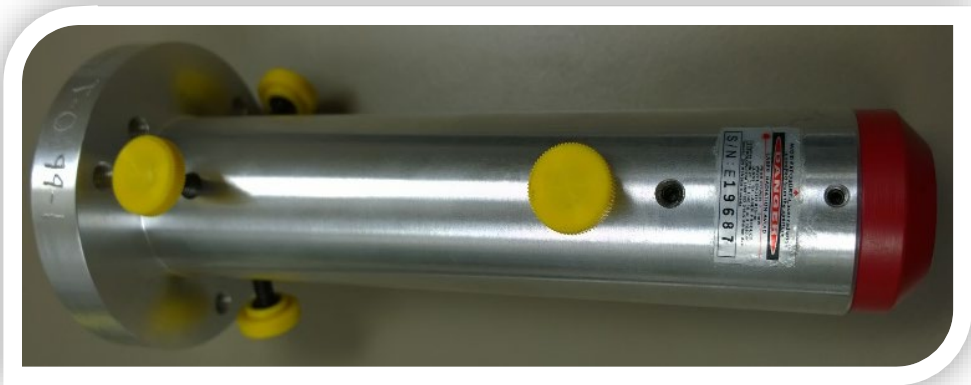
| <i>Usage</i> |
|--|
| Special Tool to Hold Landing Gear Oleo Assembly during disassembly, and assembly. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|-----------------|-------------------------------|-------------------|
| T-0199-1 | Tailcone Laser Alignment Tool | P/T |

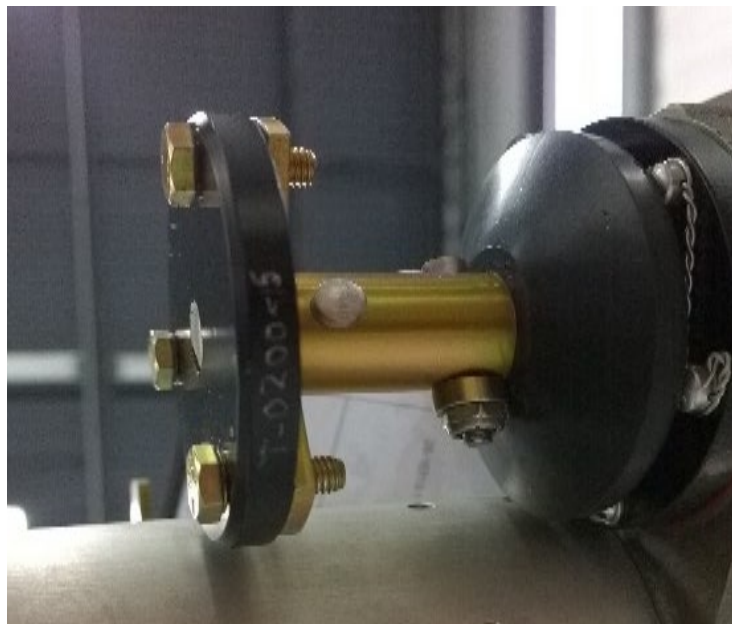
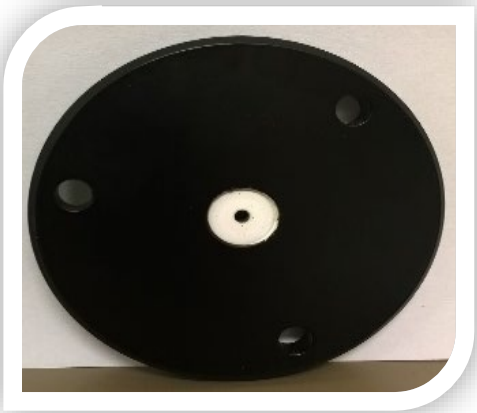
Usage

Used to align the tailcone. The tailcone alignment device. It can only be used when the main rotor gear box is installed in the aircraft.



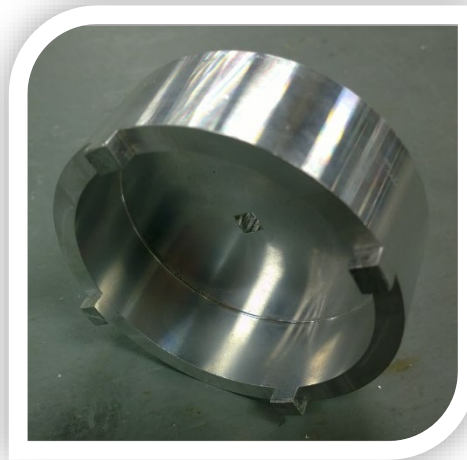
| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------|--------------------------|
| T-0200-5 | Laser Target | P/T |

| |
|--|
| <i>Usage</i> |
| Used with the T-0169-1 to align the tailcone. |



| TOOL NUMBER | DISCRIPTION | A/C APPLICABILITY |
|------------------|---------------------------|-------------------|
| T-0232-11 | TURB Fuel Fill INSTL Tool | T |

| |
|---|
| <i>Usage</i> |
| Used for removing and installing the Ahlers fuel probe. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|--------------------|--------------------------|
| NPN | Maintenance Stand | P/T |

| <i>Usage</i> |
|---|
| Used to work on, and around the aircraft. |



| <i>TOOL NUMBER</i> | <i>DISCRIPTION</i> | <i>A/C APPLICABILITY</i> |
|--------------------|------------------------------|--------------------------|
| T-3004 | Tailcone Support Stand/Block | P/T |

| <i>Usage</i> |
|---|
| Used to support the tailcone during Maintenance and or Weight and balance. |

