



AIR MOTOR SERVICING MANUAL



2" & 4" ROTOPEEN PEENING PREPERATION TOOLS



SERVICING

FOREWORD

Thank you for your purchase of the TRELAWNY Peening Preparation Tool (PPT).

This manual contains the necessary maintenance information for you to ensure proper operation and care of the air motor.

In the unlikely event that you experience problems with your Peening Preparation Tool motor, please do not hesitate to contact your local Trelawny dealer or agent. We always welcome feedback and comments from our valued customers.

ROTOPEEN FLAP & CUTTER HUB REMOVAL

Remove the rotopeen hub by inserting the supplied spanner between the air motor and rotopeen hub or drum to lock it.

For rotopeen hubs, insert a 1/4"AF Allen key into the end of the hub and unscrew in an anti-clockwise direction and remove.

If fitted with a cutter drum a suitable bar inserted between the cutters and turned in an anti-clockwise direction should break the bond, if it has been in situ for some time it may require a light tap on the cutters from a soft face hammer to release the drum.

Refitting the hub or drum requires no more than screwing on to the spindle and nipping against the flange, in normal use of the PPT will tighten the hub or drum sufficiently.

Trelawny SPT Ltd or an authorised customer service centre may only carry out warranty repairs.

SERVICING

A competent person must only carry out maintenance, in a suitably equipped workshop.

Disconnect the tool from the air supply before carrying out any of the following operations.

A suitable revolution counter may also be required to check the spindle speed once repairs have been completed. During testing do not let the operating pressure fall below 6.2bar (90p.s.i.) or rise above 6.9bar (100 psi) maximum .

Servicing air motor

Clean all debris from the exterior of the tool.

Release and unscrew using a 1/16" Allen key, the locking screw on the edge of the back flange (30). The back flange can then be removed us end wrench from the kit.

Place the tool in a vice, clamping across the flat of the throttle housing, unscrew lock ring (3).

(Note: There is a left-hand thread on the angle head casing and a right-hand thread on the motor housing) Carefully separate the angle head and motor housing along with the coupling (29) and front spacer (28).

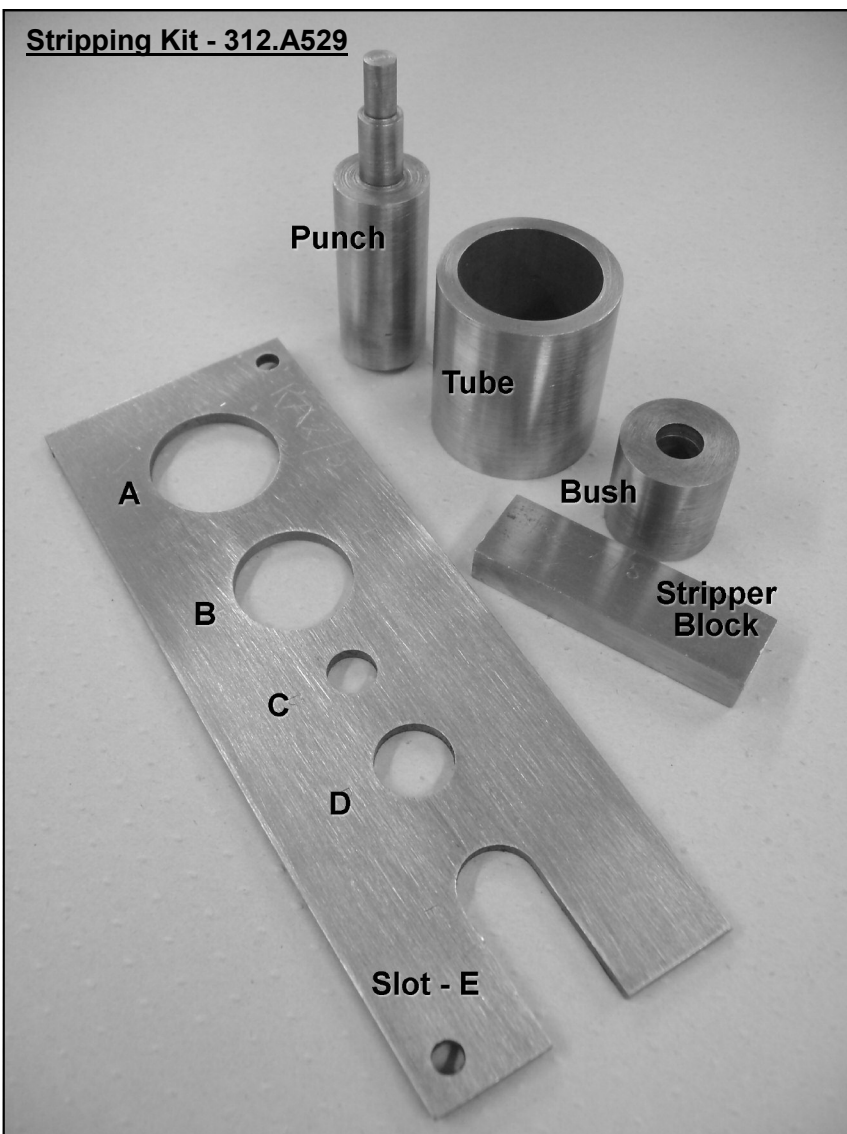
Pull the motor assembly out of the motor housing, the rear spacer (26) can remain in place.

To strip the motor, grip the rotor splines in a soft jaw vice and unscrew the governor (23) (Left-hand thread) using a 16mm spanner. Move cylinder to one side and insert the stripper block from the 'Tool Kit' between the bearing housings (7) & (8). Using stripper plate from the 'Stripping Tool Kit', pass rear bearing housing into hole 'A' so that the edge of the cylinder lodges on one side and the stripper block on the other.

Tap through using a soft faced hammer.

Tap out the rotor from the rear bearing housing using hole 'B'. Remove the rotor spacer (9) and vanes (6).

To remove each of the bearings (7)& (8) from its housing, place over hole 'B' and push out with the punch.



SERVICING continued

To strip the angle head assembly, grip the casting in a soft jaw vice and unscrew the bearing housing (18) using a large pin spanner and remove the whole spindle assembly unit.

Remove the circlip (16). Remove the bearing (14) by sliding the spindle into slot 'E' in the stripper plate, support the stripper plate at either side of the bearing and press off. Slide off foam lubricator (25), and remove the circlip (17).

Using two levers prise off the gear wheel (19) and then ease out the woodruff key (27). Press out the spindle (15) by placing blocks either side of the bearing housing with the spindle thread down. Turn the bearing housing over, place on blocks and press out the bearing (12) with the punch.

The pinion (20) assembly is a loose fit in the angle head and can generally be removed by lightly tapping the angle head on a wooden surface. The bearings (13) can be pressed off the pinion using hole 'B' in the stripper plate, this usually results in the bearings being damaged, new bearings will then have to be fitted.

Remove the six screws retaining the silencer cover and clean the housing. Renew the filter and replace the retaining screws.

The throttle unit can be disassembled by removing the valve cap (45), the O'Ring (44) and valve spring (43), then withdraw valve stem (42) and the O'Ring (41).

Clean all parts in a suitable solvent and inspect all components for signs of wear. Replace all parts that are suspect.

It is advisable to replace all O'Rings and any bearings that do not feel smooth running.

ASSEMBLY

To assemble the air motor, press the bearings into the housings (7) & (8) and place the rotor spacer (9) onto the rotor shaft (4) with the taper facing towards the rotor blade slots. Insert the threaded end of the rotor into the rear housing and press fully home using hole 'C'. Fit the vanes (6) into rotor, ensure that these move freely.

Place the cylinder (5) over the rotor, locating the pin in the small hole in the rear housing. Locate the front bearing housing (8) over the splines and use bush to push the bearing and the housing fully home using hole 'C'.

Grip the splines in a soft jaw vice and screw on the governor (23), this has a left hand thread with a 16mm spanner, do not over tighten.

Slide assembly into motor housing (1), approximately 8mm of the front bearing housing should be seen protruding.

Reassemble the throttle by fitting the O'Ring (41) to the valve stem (42). Fit the valve stem, spring (43), O'Ring (44) and valve cap (45).

Note:

Unless the governor (23) and jet (51), have been replaced, they normally do not require any adjustment. However, should it be found necessary to adjust the rpm, the motor will need to be partially stripped again in order to gain access to the locking screws (52) located beneath the motor housing (1).

Strip down up to and including removing the motor from the motor housing (1).

(Take care with the next stage, the motor housing can be easily crushed).

Place the throttle body in a vice, using the flats provided and using a strap wrench on the motor housing close to the throttle body, unscrew the housing from the throttle body.

Take care not to loose the spacer (26) from inside the motor housing. Remove the first blanking screw (52) from the throttle assembly and release the second screw beneath.

(Take care not to screw the jet in or out too far in one go, as there is very little clearance between the jet and the governor).

Using a 5/32" AF Allen key, screw the jet (51) in the required direction 1/16 of a turn, (Screw the jet inwards to go faster) retighten the locking screw and tighten the second locking screw.

Re-assemble the machine and check the rpm using a suitable revolution counter.

Continue to strip, adjust and retest until the correct speed is achieved.

To assemble the angle head, place the bearing (12) over hole 'D' in the stripper plate and press on the spindle (15) up to its shoulder.

With bearing housing (18) over hole 'B', Housing thread to top, place spindle (with its thread downward). Place the bearing over the housing, using the tube, press bearing fully home. Fit the woodruff key (27), the gearwheel (19), and the circlip (17).

Place the foam gear lubricator and bearing (14) onto the spindle and using hole 'C' press the bearing up to the shoulder and refit circlip (16). Locate spindle assembly into angle head (2). Screw bearing housing in and tighten.

Press one of the two bearings (13) onto the pinion (20) using hole 'C' in the stripper plate, followed by the second bearing. Slide the pinion assembly into the angle head housing and ensure that the gears mesh. Locate the front spacer (28) onto the pinion bearings and fit the coupling (29) onto the pinion splines.

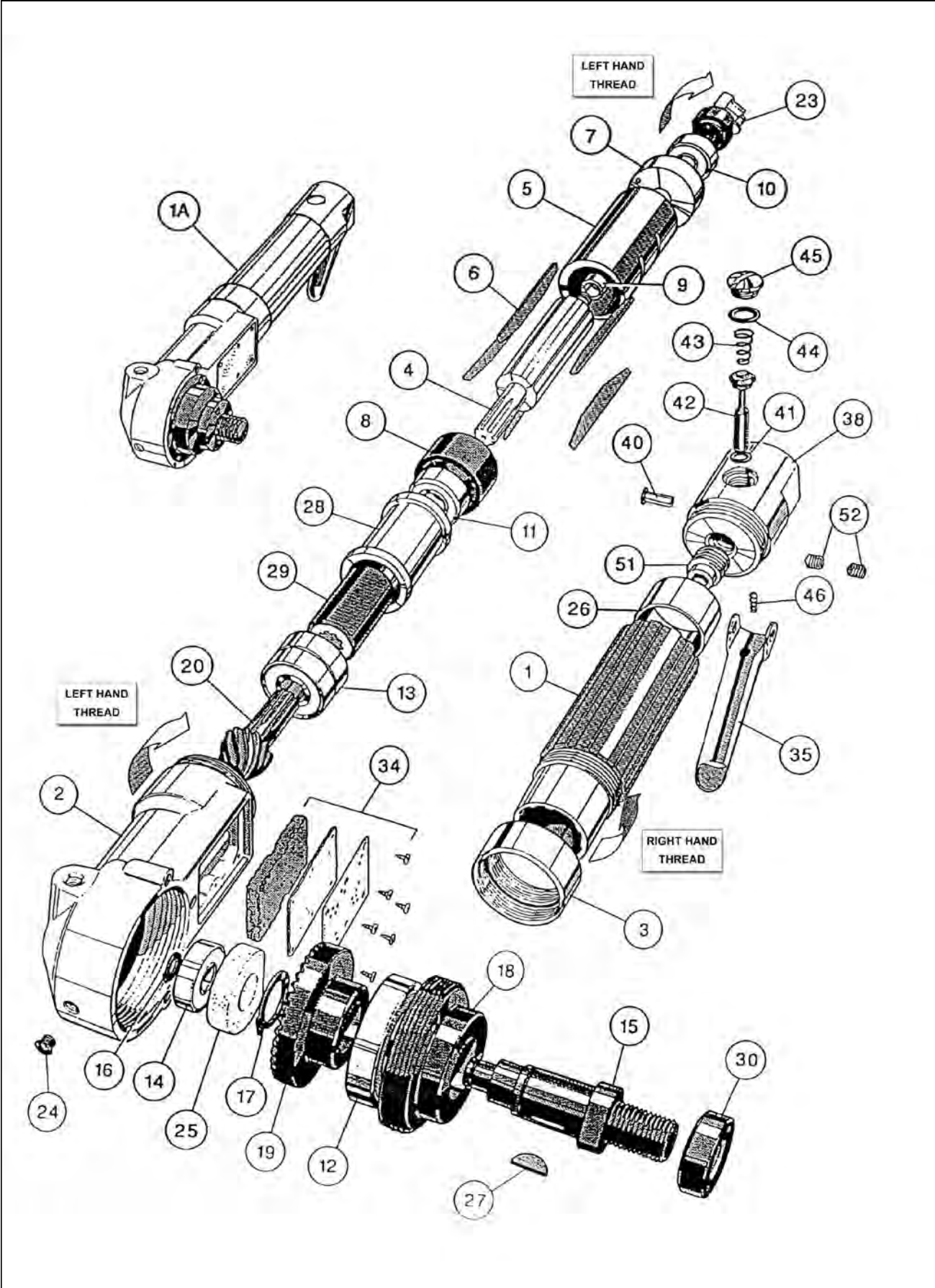
To assemble the angle head to motor, place the angle head assembly horizontally in a vice, gripping on the flats. Place the locking ring (3) on the straight portion of the motor housing, but do not screw on.

Connect the motor housing assembly to the angle head, locating the nylon coupling (29) with the splines of the motor. Ensure that both motor and angle head as butted up against one another and that the throttle lever is in the desired position. Turn the lock ring by hand in an anti-clockwise direction connecting both threads on the angle head and motor at the same time. There should be a small gap of 0.5mm (0.200") between the lock ring (3) and the angle head casting once fully home.

Use a suitable wrench on the two flats of the throttle body to hold stationary, tighten the lock ring with the C spanner.

Check that the spindle turns freely, if it is difficult to turn, then this generally means that the motor has been assembled incorrectly and must be dismantled again to find the cause. Once corrected, replace the back flange (30) and tighten with the pin spanner, and secure by tightening the locking screw with a 1/16" Allen key.

EXPLODED VIEW



PARTS DESCRIPTION

ITEM	PART No	DESCRIPTION	ITEM	PART No	DESCRIPTION
1	312.A735	Motor housing	27	312.A172	Woodruff key
1A	314.ARA2	Motor assembly	28	312.A728	Front spacer
2	312.A930	Angle head	29	312.A729	Coupling
3	312.A685	Lock ring	30	312.A730	Back flange
4	312.A686	Rotor	34	312.A732	Silencer cover & screws
5	312.A451	Cylinder	35	312.A342	Lever (Standard)
6	312.A421	Vanes (5 required)		312.A343	Lever Safety
7	312.A415	Rear bearing housing	36-37		<i>Not assigned</i>
8	312.A346	Front bearing housing	38	312.A718	Throttle housing
9	312.A101	Rotor spacer	39		<i>Not assigned</i>
10	312.A604	Rear bearing	40	312.A141	Lever pin
11	312.A689	Front rotor bearing	41	312.A330	O'Ring (throttle valve stem)
12	312.A722	Large spindle bearing	42	312.A143	Throttle valve stem
13	312.A723	Pinion bearings	43	312.A144	Valve spring
14	312.A605	Small spindle bearing	44	312.A113	O'Ring (Valve cap)
15	312.A725	Spindle	45	312.A146	Valve cap
16	312.A100	Small circlip (spindle)	46	312.A177	Lever return spring
17	312.A142	Large circlip (spindle)	47-50		<i>Not assigned</i>
18	312.A724	Large bearing housing (spindle)	51	312.A105	Jet
19/20	312.A727	Gear wheel & pinion set	52	312.A108	Jet locking screw
23	312.A102	Governor			
24	312.A249	Blanking plug			
25	312.A254	Foam gear oil lubricator			
26	312.A626	Rear spacer			

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This applies to trademarks, model denominations, part numbers and drawings.

Use only genuine Trelawny spares.

The use of non-Trelawny spare parts invalidates the warranty.



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