

All persons carrying out work on or with a Wellington shearing handpiece should read the instruction manual carefully.

# Shearing handpiece operating instructions

## ● Caution:

- Four Precision bearings are fitted to the handpiece and must not be substituted with general bearings.
- When fitting a repair kit to the handpiece never place it in a vice. All work should be carried out on a dry, clean wooden board or work with the handpiece whilst holding it in your hands.
- Please ensure the handpiece is out of gear before loosening the tension nut.
- Never disassemble the handpiece unless parts need replacing.
- Check that the chicken feet are secured in the appropriate cutter holes otherwise correct tension cannot be applied.
- Ensure the ferrule is fitted to the handpiece when using a flexible shaft.

## ● Lubrication

### Apply oil every half an hour

Place a few drops of clean high-grade oil onto the comb and cutter, tension pin cup, cogs and around the ball (through the oil hole on the top of the handpiece). Loosen the tension nut and place the handpiece in a vertical position, place some oil into the tension sleeve, then lift up the fork body and place

some oil on the inside to oil the center post cup (Illustration 1).

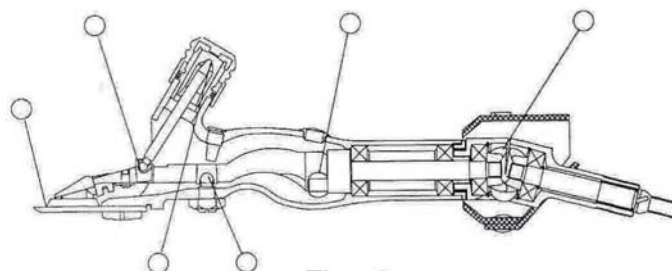


Fig 1

#### Grease daily

Remove the tension sleeve and apply a generous amount of grease to the inside of the sleeve. Also apply a small amount of grease to the rear cogs.

#### Grease weekly

Remove the chicken feet and place a generous amount of grease into the holes on the fork body and refit the chicken feet ensuring they are secured in the hole.

#### No lubrication for bearings

Sealed ball bearings are used in the handpiece and do not need oiling or greasing. The four SF bushes are self-lubricating bearings and there is no need to oil them. However, adding a little of oil (or grease) occasionally may increase the service life.

Caution: Do not put oil or grease between the tension nut and tension sleeve as this will cause loss of tension.

### ● Selecting the appropriate Combs and Cutters

Shearing combs and cutters play a major part in shearing. It is then very important to select the appropriate comb for the job. When selecting the right comb it is important to consider the shape, bevel and width of the comb (Illustration 2).

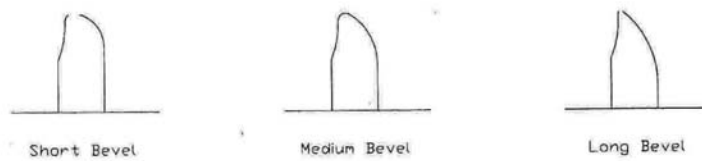


Fig 2

Under normal shearing conditions:

1. **Short Bevel Comb:** The short bevel comb is primarily used when shearing is at its best and the sheep are in top condition.
2. **Medium Bevel Comb:** The medium bevel comb is used for the majority of crossbred shearing and is suitable for most types of wool.
3. **Long Bevel Comb:** The long bevel comb is particularly suited to fine woolled sheep and is used when the wool is sticky or for early shearing.

### ● Setting a comb and cutter

Place a comb and cutter on the handpiece. Slightly tighten the comb screws until you can just move the comb on the comb bed. Ensure the centre teeth of the cutter are at least 1.5 to 2.0mm below the scallop of the comb. Tighten up the comb screws with the screw driver provided (Illustration 3).

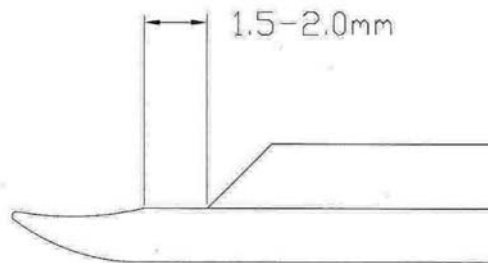


Fig 3

● Pair of the chicken feet

Ensure that each of the chicken feet swivel freely in the fork. Remove the chicken feet once a week. Clean the chicken feet and the front of the fork body thoroughly. Turn the chicken feet on their side and pull out by hand or by pliers. Always apply a small amount of grease into the setting holes on the fork body when replacing the chicken feet.

When the cone and tip on the outer half of the chicken feet is worn out, it must be replaced as soon as possible.

● Tension pressure

Each end of the tension pin is different in size. Ensure the larger end fits into the tension pin cup and the smaller end into the tension pin sleeve. Increase the pressure on the comb and cutter by turning the tension nut. If the tension nut is tightened excessively the handpiece body and combs and cutters will overheat very quickly. This will also cause the comb and cutter to not cut correctly. If the handpiece is not cutting then replace the comb and cutter with a freshly ground comb and cutter.

If adequate tension cannot be applied then consider replacing the worn tension pin, tension pin cup and tension sleeve.

- Screw

The chicken feet retaining spring is fixed to the fork body by a screw and must not be loose.

- Remove and replace the fork body assembly and the roller

**Method of removal:**

The fork body assembly can be removed without removing the center post.

First unscrew the tension nut, then remove the tension pin and tension sleeve. Remove the safety screw behind the tension nut and remove the fork body with the roller attached.

**Replacing fork body:**

Remove the oil hole cap on the top of the handpiece. Place a small amount of grease onto the roller (ball) and ball race of the fork body. Place the ball onto the crankshaft (pin) using a pen, screwdriver or other suitable method (Make sure that the flat side of the roller is facing the crank spindle). Place the crank and roller in the bottom position in the handpiece. Insert the fork body from the front of the handpiece and over the ball. After it's confirmed that the center post cup is sitting onto the center post correctly, replace and tighten the safety screw.

- Adjusting the center post

The center post has been set in the correct position in the factory and is suitable for any thickness cutter.

If it need to be readjusted, use a half worn cutter (approx

3.5mm) and any thickness comb, Rotate the roller on the crank spindle to the uppermost position and adjust the centre post by either of the following methods.

1. Adjusting by hand:

Loosen the center post nut and screw the center post in or out to set the distance from the top of roller to the upper surface of the ball race on the fork body to 3.65mm. Retighten the center post nut (As shown in illustration 4).

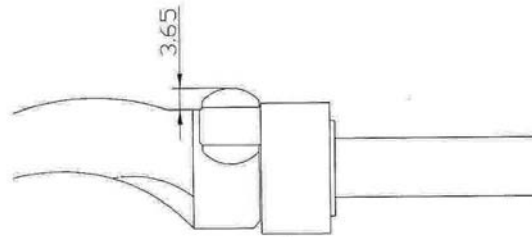


Fig 4

2. Adjusting using the post gauge: (the post gauge is designed specifically to adjust the level of the center post).

Loosen the screws and insert the post gauge as per illustration, keeping it at 90 degrees to the handpiece. Turn the center post until the centre of the gauge is level with the gauge top. Retighten the center post nut (Illustration 5).

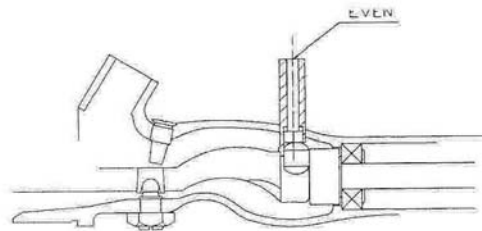


Fig 5

● **Setting the tension retaining ring**

When fitting the tension retaining spring into the threaded bush, make sure the large curve of the spring faces directly in a clockwise direction when looking down on the handpiece. Place the spring over the threaded bush and insert the small curved end into the hole. Ensure the spring is seated properly in the groove of threaded bush.

Caution: Absence of the tension retaining spring will contribute to loss of tension and could damage the handpiece.

● **Removing the inner and outer joints**

Remove the oil hole cap and place a screwdriver through the hole to stop the crank spindle from turning. Loosen the cogs using a suitable cog spanner. You can then remove the inner and outer joint from the handle by hand.

● **Lubricating the backjoint caps**

The back joint caps, not only keep the dirt and dust out, but also bear most of the weight of the backend movement. Replace if showing signs of wear. To remove the back joint cap place a screwdriver under the back joint spring and pries it away from the joint. Remove the joint cap, re-grease and put it back in place. The back joint should be greased periodically.

Caution: Ensure the joint spring not become loose, and check the small SF bush inside the hole of joint regular. Replace the over worn SF bush as soon as found.

- **Worn parts**

The handpiece should be checked thoroughly after shearing 4000–5000 sheep. Any parts found to be worn should be replaced as this will save costs and enhance the life expectancy of the handpiece.

- **Handpiece storage**

At the end of the season the handpiece should be thoroughly cleaned, examined and any parts found to be worn should be replaced. Completely grease and oil the handpiece and wrap in newspaper to keep moisture and dust out. Store in a dry place ready for the next season.

- **Maintenance**

The handpiece is a precision tool and is generally not necessary to disassemble the inner rotating parts.

Please follow this instruction when removing, replacing or assembling the handpiece during routine maintenance. The handpiece is designed to allow easy lubrication and maintenance, so the proper way of lubrication and maintenance is very important to enhance the life expectancy of the handpiece.



### **Additional instruction for 18155 Handpiece**

As there have been some significant improvements on the 1C model, now you have got the 2C model in hand. Hereby we would like to draw your attention to the difference between the 1C and 2C model handpiece.

● According to the drawing inside the bottom page, the 2C model will not have these parts any more:

27.SF-1 bush; 35.Washer(1); 40.Middle SF bush; 41.Small SF bush(2)

● 26.Retaining clip has become into retaining ring.

● Grease weekly: You need to take the joints assembly off by unscrewing cogs, and then apply a generous amount of grease into the annular interspaces between the Bush(25) and Thread cap (28).

The grease must be high quality and suit for use at temperature up to 120° C.

To keep doing this will be much helpful to the life expectancy of your handpiece.

● The thread cap (28) is replaceable after long time using or wearing out. When it re-assembles back, the loctite-222 (anaerobic adhesive) should be applied onto the thread.

