

## TROUBLE SHOOTING GUIDE

### Spring loaded reverse gear FJB 10 for ALBIN AD-21 and O-22

Running troubles	Probable reason	Measures
<b>Reverse gear does not disengage when operating lever is in neutral position.</b>	Defective neutral positions plunge in manoeuvring mechanism.	Replace manoeuvring mechanism.
	Defective catching knob on small Spring.	Replace small spring.
	Operating lever does not reach marked position.	Adjust operating length of Teleflex cable.
	Too small clearance between inner and outer engaging rings.	Check that the clearance is between 0,5 - 1,5 mm. Use if necessary adjusting washers.
<b>No running ahead in spite of ahead position of operating lever.</b>	Defective manoeuvring mechanism.	Replace manoeuvring mechanism.
	Operating lever does not reach marked position.	Adjust operating length of Teleflex cable.
	Deformed small spring.	Replace small spring.
<b>No running astern in spite of astern position of operating lever.</b>	Defective astern plunge in manoeuvring mechanism.	Replace manoeuvring mechanism.
	Operating lever does not reach marked position.	Adjust operating length of Teleflex cable.
	Defective catching knob on the big spring.	Replace big spring.
<b>Reverse gear "slips"</b>	Resistance in propeller or stern bearing.	Check that there is no rope's end or something similar caught in the propeller.
	Deformed small spring.	Replace small spring
	Deformed big spring.	Replace big spring.
	Defective inner engaging ring.	Replace inner engaging ring.
	Incorrectly adjusted cones and locking.	Check the tightening of the Locking nuts. They should be tightened up against the distance sleeve and then slackened 1/2-3/4 turn.
	Deformed inner cone.	Replace inner cone.
<b>Knocking in reverse gear at manoeuvring.</b>	Too high idling speed.	Adjust idling speed.
	Incorrect handling of operating lever	Follow given instructions.

## REPLACEMENT OF GEARBOX ON ALBIN O-22 & AD-21

1. Disconnect remote control cable from gearbox selector lever, unbolt propeller shaft coupling and slide prop shaft aft.
2. Unbolt and remove the complete selector mechanism assembly from gearbox housing.
3. Remove all hexagon cap screw around gearbox mounting flange.
4. Pull gearbox aft, twisting at the same time to release the drive spring from the engine drive collar. The drive spring between gearbox and engine must be pulled off by hand turning the spring to open the coils slightly.
5. Remove any shims or gaskets that may be fitted on the flange between gearbox and engine housing.
6. Without the drive spring offer gearbox up to engine and fit into position with a couple of screws on opposite sides to hold into position and tighten until just biting. Revolve gearbox output coupling by hand to determine if free and not binding between the forward end of gearbox shaft and engine drive collar.
  - A. If free to rotate, remove gearbox and fit gasket (ensure all holes line-up correctly). Fit drive spring on gearbox with lug on spring, facing towards engine.
  - B. If the gearbox is binding and cannot rotate freely remove gearbox and fit steel shim between gearbox and engine housing then offer gearbox up again and try as per above. If necessary fit a further shim. In most cases only one shim and gasket is required if there should be any binding between gearbox shaft and engine drive collar.
7. When satisfactory reassemble the complete unit with selector and reconnect control cable and propeller shaft.

## SLIPPING GEAR BOX

Possible causes:

1. Lubrication problems:

A multigrade oil being used (use 30 grade only)

2. Oil sludgy due to:

- A build up over the years (black sludge)

Action: Flush engine and gearbox with flushing oil.

- Water in oil

Action: Engine and gearbox must be completely stripped immediately and all parts thoroughly cleaned and cause of water ingress established.

3. Worn springs etc.

Action: Strip, inspect and replace as necessary.

## OPERATING SPRING GEARBOX ON ALBIN O-22 & AD-21

The spring loaded type reverse gear requires little operating effort. This makes it possible to use single lever control. With this type of control, both the reverse gear and engine speed are operated by means of the single control lever.

All manoeuvring should be made with **distinct** movements when selecting neutral or changing from neutral to ahead or astern position. **(Except in an emergency engine should be at near idling speed when selecting neutral, ahead or astern.)** Positions between the marked positions 2,3 and 4 in figure may damage the reverse gear. When the lever goes into the proper position a definite indentation can be felt. With the control lever in neutral (position 3 ) the propeller is not coupled to the engine and the engine is idling. Moving the lever forward to position 2 couples the propeller to the engine at idling speed. Moving the lever farther forward increases the engine speed. When the lever is moved backward to position 4 the propeller is coupled to the engine at idling speed. The propeller is now turning in a reverse direction. Moving the lever farther back increases engine speed.

