Replacing blades and/or shear pins after hitting an obstacle

Applicable Model(s):

- Iseki SG19 or SG22with SCMA48 or SCMA54 Mower Deck

Time needed:

- Allow 1.5 to 2.5 hours

Materials needed:

- Replacement Shear Pins and Mower Blades as needed.

Tools needed:

- Mole grips, or large multi-grip pliers
- 17mm or 11/16ths socket spanner with good long arm
- Block of wood as a chock to stop blade turning
- Electric drill might be needed
- A number of steel drills, about 3-4 mm, say at least 3 to allow for breakages.
- Self tapping screw may be required

Disconnecting the deck from the machine.

1. Drive onto flat paved surface with 2 metres clear all around, put on the brake, put the steering to full right lock, lift deck fully up, switch motor off.
2. Un-pin and turn the trailing wheels on the deck to right angles to the direction of travel. This helps you slide the deck out later.
3. Set cutting height to minimum height, start motor, lower deck fully down, switch off motor.
4. Using the mole grips or large multi-grip pliers, ease out two large deck pins connected to trailing arms each side. (NB: These have in-situ split-pin catches to hold them back.)
5. Start motor, and operate deck lift lever to lift arms to highest position, switch off motor.
6. Push central bottom chute collector behind the deck as low as possible and secure using the in-situ large ring clip. (Picture 6).
7. Go to front of machine and ease out single large pin which allows front trailing arm to be swung down with the lever and detached from front of mower.
8. Ease out the two large trailing arm deck pins to detach the trailing arm link.
9. Push the top of the deck chute as low as possible and secure (on either side) with the mole grips. (Picture 7).
10. **Important: Mistake often made here.** See Picture 8 first; it shows where the power drive is detached from the machine power take off point (PTO). Detach the power shaft at the front of the shaft by sliding the circular collar mechanism at the front of the power shaft, towards the rear. This allows the splined shaft to slide backwards and fall free of the PTO.

Stage one is now complete; the deck is now isolated from the machine.

Slide the deck forward a little until the rear chutes clear each other by a few centimetres. Then slide the deck sideways, out from under the machine. It is a little easier if slid away to the left hand side, with the mower steering set to full right lock. Watch not to catch the rear chutes as the deck slides out, and also watch the power drive coupling as it clears the wheel of the mower.

Once well clear, turn the deck over by lifting the rear edge, taking care that the power take-off is not damaged when the deck is rotated over on its back.

The blades should now be fully accessible.

Replacing the blades and/or shear pins.

1. Note the orientation and side for each blade; they are different and must be put back as removed. Remove the central bolt and blades using the 17mm socket and the wood block chock to prevent each blade turning. Turn the bolt anti-clockwise to remove.
2. The two shear pins should now be evident. If broken, you need to remove the broken smaller part from the deck shaft platform spindle. This can be done two different ways:
    a. Lower the deck onto a support, holding it about 9" to 12" from the ground. Lie by the side and with a small hammer or wrench, hit the roundel in which the pins fit in an upwards direction. The pins will tend to fall out under their own weight. Or if they start to come out, you can grasp them with pliers and pull fully out. If that doesn't work:
    b. Drill with 3 -4 mm HSS drill down the centre of each pin until the pin starts to rotate with the drill bit and can be removed after the drill is detached, (see Picture 11), OR, after the drill has gone in to 6mm, removing and then a suitable size self-tapping screw is inserted until very tight, then the broken smaller part can be removed.
3. Once the broken pieces are removed, replace with the new shear pins. These should be fitted with the small length in first.
4. Note: Optional, sharpen the blade using a steel file.
5. Fit the same blade back, the correct way up, and tighten (very tight) using a wooden chock.
6. Rotate the blades to check the blades are not bent and run correctly in relation to the deck.

The repair is now complete and the machine needs to be reassembled.

Re-installing the deck.

1. Turn the deck back over, and slide back under the machine. It may be useful to use a medium stick or post to 'lever' the deck in, watching all the time for clearance.
2. Un-pin and turn the trailing wheels on the deck to the normal direction of travel.
3. Slide deck backwards so that deck chute goes into the rear collector chute.
4. Re-install the two large trailing arm deck pins to attach the front trailing arm to the deck.
5. Go to front of machine and bring up the front trailing arm and swing up using the lever and then re insert the large pin to lock in place.
6. **Important: Mistake often made here.** See Picture 8 to remind you of the reconnection point; it shows where the power drive is attached to the machine (PTO). Attach the power shaft at the front of the shaft by sliding the circular collar mechanism at the front of the power shaft, towards the rear. This allows the splined shaft to slide on and connect to the PTO. Attach it by pushing the collar mechanism to the rear, whilst pushing the assembly on to the PTO spline.
7. Start motor, and operate deck lift lever to lower arms to lowest position, switch off motor. You may have to push the arms down since they may not fall under their own weight.
8. Re-connect two large deck pins connected to trailing arms each side.
9. Unhook the in-situ large ring clip on the central bottom chute collector.
10. Remove the mole grips holding the deck chute.
11. Check carefully all around and remove all tools to a safe distance.
12. Start up the motor and lift and lower the deck in steps to ensure all operational and no unexpected noises. Leave deck up.
13. Drive machine to grassed area and slowly engage the mover drive. Listen for unexpected noises and check all appears operational.
14. Check that the cutting height adjuster is working correctly.

Pictures:

Picture 1: Cut set to lowest setting

Picture 2: Trailing Arm pins eased out

Picture 3: Front Pin eased out

Picture 4: Lever on tractor LHS brought forward to disengage front connection

Picture 5: Trailing arm pins eased out and arms disconnected

Picture 6: Rear Chute held down with large hoop (already in place)

Picture 7: Deck Chute held down with mole grips

Picture 8: Front power take-off shaft after deck shaft uncoupled

Picture 9: Deck slid out showing power drive shaft and coupler

Picture 10: Sheared pins

Picture 11: Drilling out sheared pins

Picture 12: Sheared pin and new pin side by side. NB: short length goes in first.

Picture 13: New pins in place

Picture 14: Blade in place over pins

Picture 15: Cover plate and 17mm bolt in place

Picture 16: Tightening with the spanner

END