REPLACING AUGERS AND LINERS IN THE 90AD EXTRUDER
SAFETY

J.C. Steele and Sons equipment is designed to process large amounts of heavy products. To accomplish many of the required operations of our customers, high horsepower and heavy components are required. A great deal of time and effort has been invested into our equipment to make them as safe as practically possible. The safety features are no substitute of caution and common sense. A careless moment is all that is needed to cause a serious accident. Please refer to the machine’s Owner’s Manual for a detailed list of safety precautions.

GENERAL DESCRIPTION

FIG 1: Side view of 90AD extruder

This bulletin outlines the procedure to replace the augers and liners in the 90AD Extruder.

SPECIAL TOOLS NEEDED

- 2 60” long puller rods
- Anti-seize
- ¼” bead of silicone
MANPOWER ESTIMATE

This procedure will require 2 men for 1 hour, depending on ease of access and maintenance state of equipment.

PROCEDURE

1. Follow plant procedures to **lock out all electrical sources**.
2. Extend **Hydraulic Die Changer** to maximum travel.
3. Remove the two **carrier coupling cap screws (9S)**.
4. Retract **cylinder** to maximum travel. This will let you access the **bolts** to the **clamping (42CR)**.

5. Remove **bolts** and **clamp ring** and the **liner (10)**.
6. Install two **60” long puller rods** into the **puller holes** in the **liner adaptor (41LAF)** and remove adaptor.
7. Remove **point auger washer (22E)**.

8. Remove **point auger** by pulling off of **shaft**.
9. Install **puller rods** in the **liner adaptor (41LAR)** and pull out front of the **barrel**.
10. Do the same thing to remove the **adaptor (41LARCV)**.
    - **Figure 4** refers to the HCV model, though this same procedure can be applied to the HTR model.
11. Pull the **auger (72ZCV)** off the shaft.
12. Slide the **wedge liner (1WCV)** out of the **barrel**.
13. Pull the **auger (6ZCV)** off of the **shaft**.
14. Remove the other augers (5ZCV, 4Z, 3Z, 2Z, 1Z) in the same way.
15. Clean auger shaft.
16. Coat auger shaft with grease or anti-seize.
17. Remove all of old liners from adaptors and clean adaptors (inside and outside).
18. Install a ¼” bead of silicone on the rear hub of each auger and let dry.
19. The rear of the auger is the side that has the number on it.
20. Install the auger (1Z) on the shaft and push it all the way back.
21. Install the auger (2Z) so the wing will match up to the wing of the auger (1Z).
   ➢ If the wings do not match up, remove the auger (2Z) and turn 180 degrees and reinstall.
22. Install the augers (3Z, 4Z, 5ZCV, 6ZCV) in the same way.
23. Install the liner (1WCV) with the tapered side to the rear of machine.
24. Install the liner (2W) in the adaptor (41LARCV) with the engraved letter or number facing the front.

FIG 5: 90ADEX liner with engraving indicating the front side

25. Install the adaptor in the barrel with the notch of the inside of the adaptor up and the 2 notches on each side over the 2 keys in the barrel.
26. Push adaptor against the liner (1WCV).
27. Install three liners (2W) into the adaptor (41LAR) in the same way as the adaptor (41LARCV).
   ➢ Make sure the lifting eye hole is at the top and the puller holes are at the front of the machine.

28. Install the auger (7ZCV).

29. Install the liner adaptor (41LAR) into the barrel with the lifting eye hole up and the puller holes to the front of the machine.

30. Install the liners (8W, 9W) into the adaptor (41LAR) with notches up and numbers to the rear of the machine.

31. Install point auger (8Z).

32. Install the adaptor (41LAF) into the barrel with lifting eye hole up at top and puller holes to the front of machine.

33. Install the liner (10W) with the number at rear of the machine.

34. Coat rear of clamp ring (42CR) with silicone and install on front of machine.

35. Extend hydraulic cylinder and install carrier coupling cap screws (9S).

36. Run machine and check.