

1.

**Important:** Ignition switch lock cylinder that won't rotate or is seized.

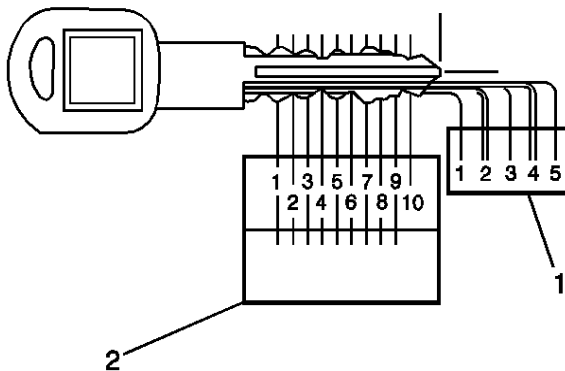
2. Follow the procedure below if the ignition switch lock cylinder is seized or won't rotate.
  - 2.1. Protect the immediate work area with suitable material such as clean shop towels or a clean fender cover.
  - 2.2. Locate the surface for the ignition switch lock cylinder release button (2) on the plastic ignition switch housing and center punch a location (1) on the "rib" approximately 3/8 inch reward, toward the key entry end, from the cylinder release button.
  - 2.3. Carefully drill a pilot hole through the plastic housing with a 1/8 inch drill bit.
  - 2.4. Carefully drill a larger hole at the pilot location, and slightly into the ignition switch lock cylinder surface to break the release button retaining spring using a 9/32 inch drill bit.
  - 2.5. Remove portions of the broken spring from the hole using a small suitable tool.
  - 2.6. Grasp the ignition switch lock cylinder and remove it from the switch housing.
  - 2.7. Remove any plastic "flash" from the drilling operation, and using compressed air blow out the ignition switch assembly.

## Key and Lock Cylinder Coding

### [Key Identification and Usage](#)

A single key is used for all of the locks on the vehicle. The key identification is obtained from the five-character key code located on the key tag. The five character key code should be recorded by the owner and the dealer. The mechanical key code can be determined through the use of a code cross-reference list which is available to owners of key cutting equipment from the equipment suppliers.

## Cutting Keys



After the mechanical key code has been determined from the code list , perform the following steps:

1. Cut a blank key to the proper level (1) of each of the tumbler positions (2).
2. Remove any rough edges from the key using a wire brush or wire wheel.
3. Inspect the key operation in the lock cylinder.

## Replacement Lock Cylinders

The lock cylinder keyway is designed so that other model keys will not enter a current model lock cylinder. New lock cylinders are available from the service parts warehouses without tumblers and springs. The tumblers and springs are also available and must be assembled into the lock cylinder according to the mechanical key code.

## Lock Cylinder Tumbler Operation

All lock tumblers are shaped alike with the exception of the notched position on one side. As the key is inserted into the lock cylinder, the tumblers are lowered to the correct height so that notches on each tumbler are at the same level. When the notches on all six tumblers line up, two small springs push the side bar into the notches, allowing the cylinder to turn in the cylinder bore. Five types of tumblers are used in making the lock combinations. Each tumbler is coded and stamped with a number between 1 and 5.

## Ignition Lock Cylinder Coding

### Tools Required

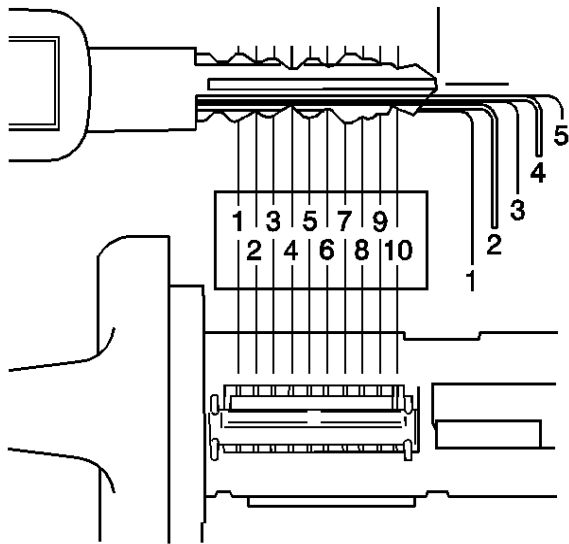
J41340 Ignition Lock Holding Fixture

**Important:** If the original ignition lock cylinder is being RECODED, proceed to step 1. If the ignition lock cylinder is being REPLACED with a new ignition lock cylinder, proceed to step 2.

1. Remove the ignition lock cylinder core from the ignition lock cylinder housing.
  - 1.1. Insert the key into the ignition lock cylinder.
  - 1.2. Rotate the lock cylinder core to START.
  - 1.3. Press the lock cylinder core retainer located in the end of the ignition lock cylinder.
  - 1.4. Pull the ignition lock cylinder core out of the lock cylinder housing using the key.
5. Pry the tumbler spring retainer out of the ignition lock cylinder core using a small flat-bladed tool.
6. Remove all of the tumbler springs.

**Important:** Be careful to observe and record each tumbler and it's relative position in the lock cylinder core as the tumblers are removed.

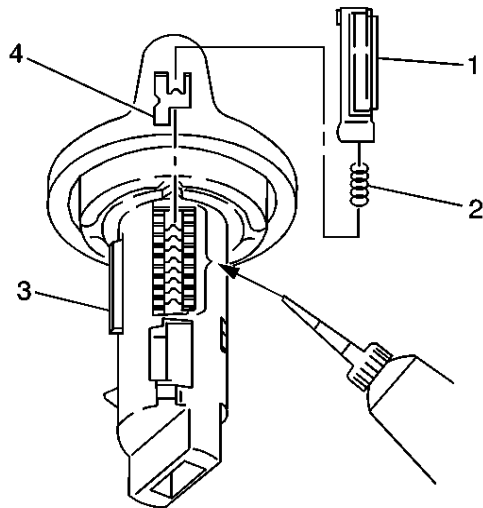
7. Remove all of the tumblers by rotating the lock cylinder so that the tumbler slots are facing down.
8. Hold the lock cylinder core close to a flat surface.
9. Pull the lock cylinder core side bar out with your fingers. It may be necessary to tap the lock cylinder on a hard surface to remove all of the tumblers.



10. Determine the tumbler numbers and their respective positions.

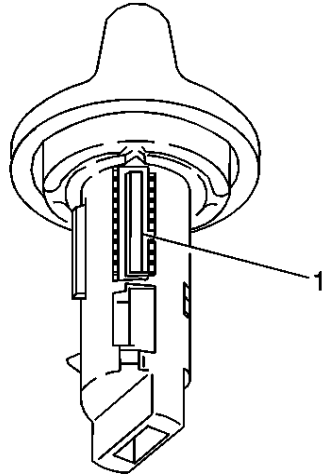
- 7.1. Place the tip of the key directly over the tip of the illustrated key.
- 7.2. Inspect that the diagram outlines the key.
- 7.3. Starting with position 1, the open end of the lock cylinder, find and record the lowest level tumbler number that is visible.
- 7.4. Repeat the previous step for positions 2-10.

14.

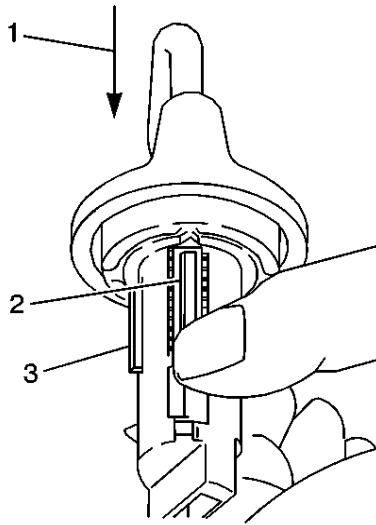


15. Starting with position 1, insert the tumblers (4) into their corresponding slots in the coded order.
16. Using your fingers, pull out the side bar (3) until the tumblers fall completely into the lock cylinder core.

17. Insert one tumbler spring (2) above each tumbler (4).
18. Lubricate the tumblers using Superlube® GM P/N 12346241 or equivalent.
19. Insert the spring retainer (1) prongs into their respective slots in the lock cylinder core.



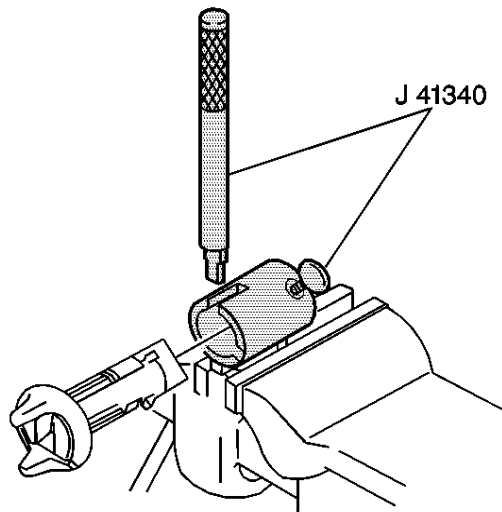
20. Press the retainer (1) down until the retainer is fully seated in the lock cylinder core.



21. Inspect for proper tumbler installation:

- 14.1. Hold the spring retainer (2) in position.
- 14.2. Insert the key (1) into the lock cylinder. The side bar (3) should drop down to the level of the lock cylinder core. If the side bar does NOT drop down to the level of the lock cylinder core, proceed to step 2.

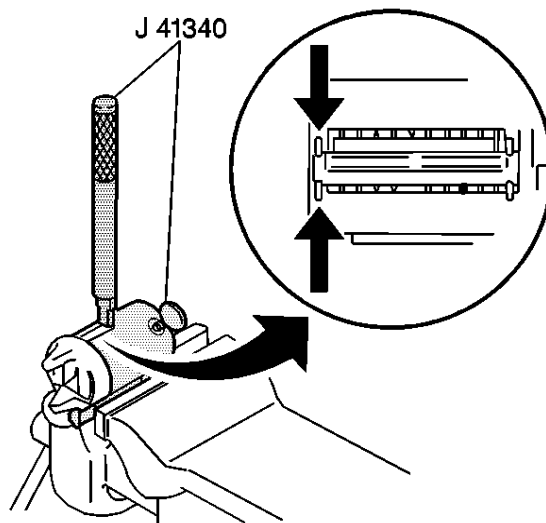
23.



24. Secure the lock cylinder in the J4130.

- 16.1. Inspect that the spring retainer is facing up and positioned directly under the punch slots.
- 16.2. Insert the lock cylinder completely into the J4130 until the lock cylinder bezel contacts the J4130 .
- 16.3. Tighten the J4130 holding screw.

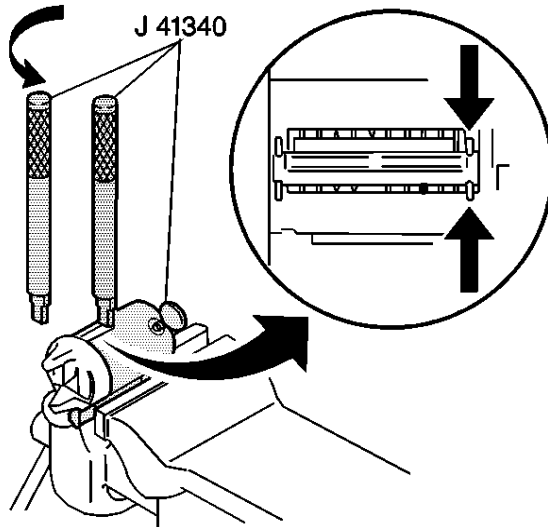
27.



28. Stake the bezel end of the spring retainer:

- 17.1. Hold the flat side of the punch, part of J4130 squarely against the face of the lock cylinder bezel.
- 17.2. Stake the lock cylinder metal over the spring retainer prong.

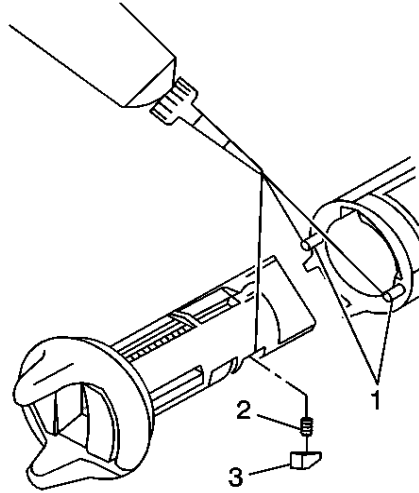
30.



31. Stake the opposite end of the spring retainer:

- 18.1. Remove the J4130 punch.
- 18.2. Rotate the J4130 punch 180 degrees.
- 18.3. Hold the J4130 punch squarely against the end of the punch slot on J4130 .
- 18.4. Stake the lock cylinder metal over the spring retainer prong.

35.



36. Loosen the J4130 holding screw.

37. Remove the lock cylinder from the J4130.

38. Inspect that the spring retainer is properly staked. Repeat staking as needed.

39. Lubricate the lock cylinder core retainer slot.

40. Insert the following parts into the lock cylinder core retainer slot:

- The lock cylinder retainer spring (2)
- The lock cylinder retainer (3)

42. **Important:** Use a paste type grease, not a spray, for the following step.

43. Lubricate the following parts with GM P/N 12345996 or equivalent:

- The lock cylinder housing detent pins (1)
- The lock cylinder retainer (3)

45. Orientate the lock cylinder retainer to the tapered notch in the lock cylinder housing.

46. Insert the ignition lock cylinder into the ignition lock cylinder housing.

47. Inspect for proper ignition lock cylinder rotation using the key.