



Fire Protection Training

Procedures Handbook 4300

MOBILE EQUIPMENT

TOPIC/EQUIPMENT: Adjust S-Cam Air Brake - Type 30/30 – Engine, 1 Person

CATEGORY: Performance Examination

POINTS POSSIBLE: 100

TIME ALLOWED: 5 Minutes

BEHAVIORAL OBJECTIVE:

Condition: An engine with an S Cam Type 30/30 air brakes system chocked or on jack stands, a helmet and goggles, a $\frac{9}{16}$ " box end wrench, a ruler, a marking device and a creeper

Behavior: The student will properly adjust an S-Cam Type 30/30 air brake system

Standard: With a minimum of 70% accuracy, within 5 minutes according to the job breakdown

MATERIALS NEEDED:

- One (1) Engine with "S" Cam Air Brakes type 30/30
- One (1) Score sheet per student
- One (1) Stop watch
- One (1) $\frac{9}{16}$ " Box End wrench
- One (1) Ruler
- One (1) Marking device
- One (1) Helmet
- One (1) Pair of safety goggles
- Two (2) Chock blocks
- One (1) Creeper

PROCEDURES:

The examination will begin when the student either verbally or by conduct performs any step of the examination. The examination will end when the student either verbally or by conduct indicates the examination has been completed.

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SCORING:

Points will be deducted for each step omitted, performed improperly, or performed out of sequence. Lettered procedures may be performed in any sequence within the numbered step without a loss of points. If proper adjustment has not been achieved the student will have to return to step 5. Additional points will be deducted for any repeated steps performed improperly.

SPECIAL NOTES:

Before the evolution begins the student will be allowed to ask any clarifying questions and inspect the equipment. Once the examination begins the evaluator shall not answer any questions or intercede in any way, unless safety violations occur that would injure personnel or damage equipment.

SPECIAL INSTRUCTIONS:

1. Proper adjustment is light drag of the brake shoe on the drum.
2. Throw greater than 1 ½" or less than ¾" is out of service by CDF Standard.
3. If proper adjustment has not been achieved after step 9, the student will have to return to step 5. Points can be deducted more than once if steps 5 through 9 are done improperly or out of sequence. Each time a student improperly performs the same step, add a circle to the right of the points column to indicate additional points to be deducted.

BEFORE STUDENT ENTERS THE EXAMINATION SITE

1. Start engine and build up maximum air pressure.
2. Evaluator to adjust brake in order to determine proper slack adjustment travel.
3. Adjust brake so slack adjuster travel is greater than 1 ½".
4. Clean all chalk marks off push rod.
5. Leave engine with spring brake applied.
6. Position vehicle and chock according to CDF policy, or place on jack stands.

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AFTER STUDENT ENTERS THE EXAMINATION SITE:

1. Student will don helmet and goggles.
2. Point out all tools and equipment to be utilized in exam.

Score Sheet

Adjust (S-Cam) Air Brake - Type 30/30 -
Engine, 1 Person

TEST # _____ RETEST # _____ UNIT # _____

STUDENT'S NAME _____

EVALUATOR'S NAME _____

START TIME

	<u>POINTS</u>
1. Release spring brake	<u>10</u>
2. Mark push rod for measurement	<u>10</u>
3. Apply the spring brake	<u>10</u>
4. Measure the push rod travel	<u>10</u>
5. Release spring brake	<u>10</u>
6. Push wrench down and depress locking ring sleeve to release adjusting nut	<u>10</u>
7. Turn adjusting nut in the direction to shorten push rod throw until nut no longer turns or the shoes are making contact with the drum	<u>10</u>
8. Turn adjusting nut in opposite direction $\frac{1}{4}$ turn or until the shoe is slightly rubbing on the drum	<u>10</u>
9. Remove the $\frac{9}{16}$ " box end wrench and allow the locking sleeve to extend. If the locking sleeve remains depressed, turn adjusting nut back and forth slightly until locking sleeve extends fully	<u>10</u>
10. Apply spring brake and remeasure the slack adjuster travel (Slack adjuster throw must be less than $1 \frac{1}{2}$ and greater than $\frac{3}{4}$)	<u>10</u>

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