

# TECHNICAL BULLETIN

 <p><b>JAGUAR</b> SERVICE</p>	<p><b>MIL Illuminated – HO2S – DTC 44 and/or 45 – Add Ground Straps – Service Action S494</b></p> <p>MODEL 1994-95 MY V12 XJS 1994 MY XJ12</p> <p>DATE 08/01</p>	<p><b>18-57</b></p>
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## ISSUE:

Service Action S494 applies to the following vehicles:

- 1994 to 1995 ModelYear XJS V12 Vehicles  
VIN Range: 188105-221234
- 1994 ModelYear XJ12 Vehicles  
VIN Range: 673590-708235

In addition, the following 1994 ModelYear pre-production XJ12 vehicles should be modified: 671007, 671040, 671110, 671139, 671177, 671224, 672305 and 672308 (USA) and 671078 for Canada.

Some XJS 6.0L V12 and XJ12 series vehicles within the above VIN ranges may experience customer concerns of the 'check engine' malfunction indicator light illuminating with diagnostic trouble codes (DTCs) FF44 and/or FF45 stored. These DTCs show an inconsistent reading from the Heated Oxygen Sensors (HO2S). The HO2S are giving a faulty reading due to a slight degradation of the engine to body ground straps.

In order to prevent this issue occurring again, two supplementary ground straps need to be added to all vehicles within the above VIN range.

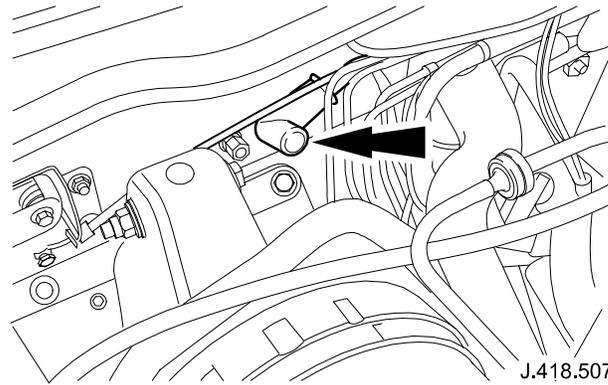
## ACTION:

### INSTALLATION OF AUXILIARY GROUND STRAPS ON XJS VEHICLES ONLY:

1. Open luggage compartment.
2. Open hood.
3. Place fender protection covers over the front fenders.
4. Disconnect vehicle battery.

 **Caution:** On 1994 MY vehicles, ensure that the radio code is available before disconnecting the battery.

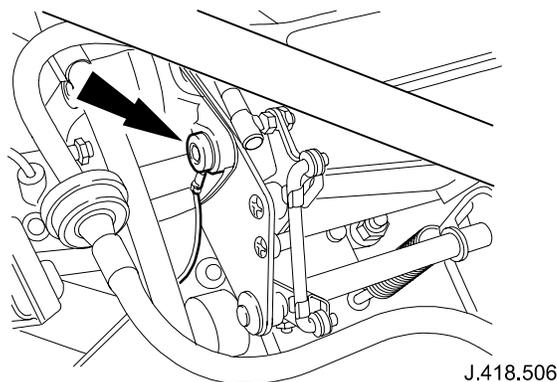
**PROTECTIVE BOOT OF GROUND POINT (SHOWN ON RHD VEHICLE)**



**ILLUSTRATION 1**

5. Working on right side of engine compartment, move aside innermost ground point protective rubber boot (Illustration 1).
6. Remove ground point mounting nut.
7. Move aside ground lead eyelets.
8. Clean ground eyelets using emery cloth.
9. Feed supplemental ground lead through ground point protective rubber boot.
10. Reinstall all three ground eyelets on ground stud.
11. Reinstall and tighten ground point mounting nut.
12. Reinstall ground point mounting protective rubber boot.
13. Route supplementary ground lead behind brake pipes and below plenum drain tube.
14. Remove the Torx mounting bolt from the existing ground lead on the rear of the right side intake manifold (Illustration 2).

**TORX BOLT FOR EXISTING GROUND LEAD (SHOWN ON RHD VEHICLE)**



**ILLUSTRATION 2**

15. Move aside the existing ground lead.
16. Clean the ground eyelet using emery cloth.
17. Replace the existing and new ground eyelets to rear of right side intake manifold.
18. Install and tighten the Torx mounting bolt.
19. Working on left side of the engine compartment, move aside the protective rubber boot of the innermost ground point (Illustration 3).

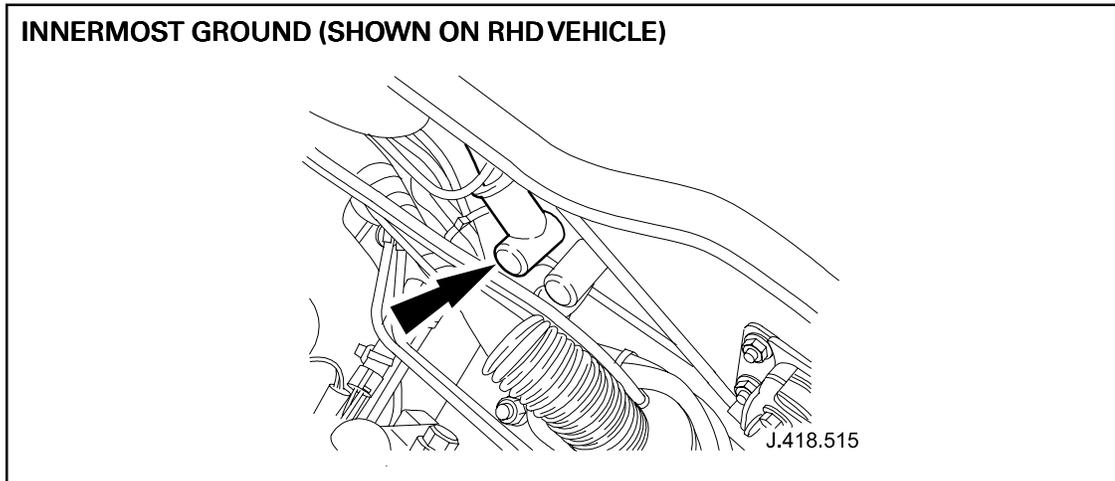


ILLUSTRATION 3

20. Remove the ground point mounting nut.
21. Move aside the ground lead eyelet.
22. Clean the ground eyelet using emery cloth.
23. Feed the supplemental ground lead through ground point protective rubber boot.
24. Install the existing and the supplemental ground eyelets to ground post.
25. Reinstall and tighten ground point mounting nut.
26. Reinstall ground point mounting protective rubber boot.
27. Remove the Torx bolt from the rear of left side intake manifold (Illustration 4).

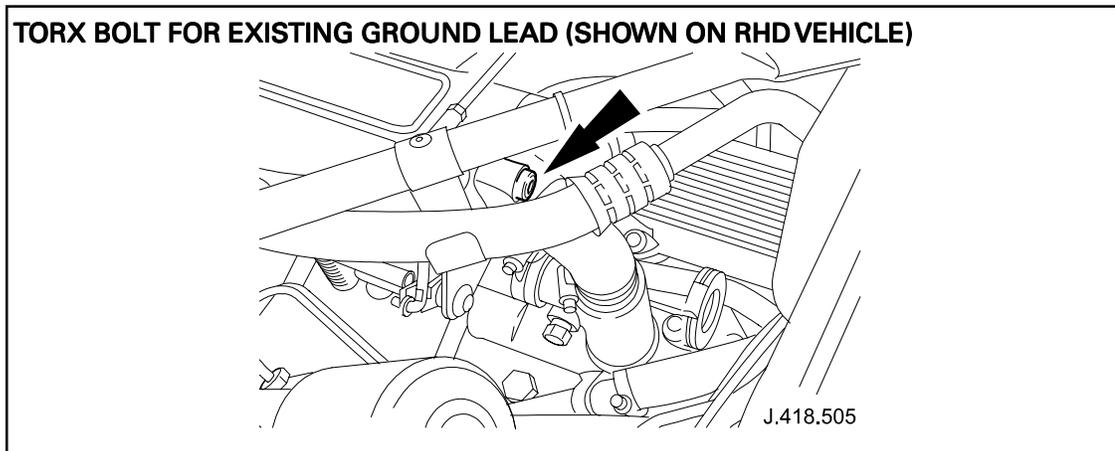


ILLUSTRATION 4

28. Position new ground eyelet on rear of left side intake manifold.
29. Reinstall and tighten Torx bolt on rear of left side intake manifold.

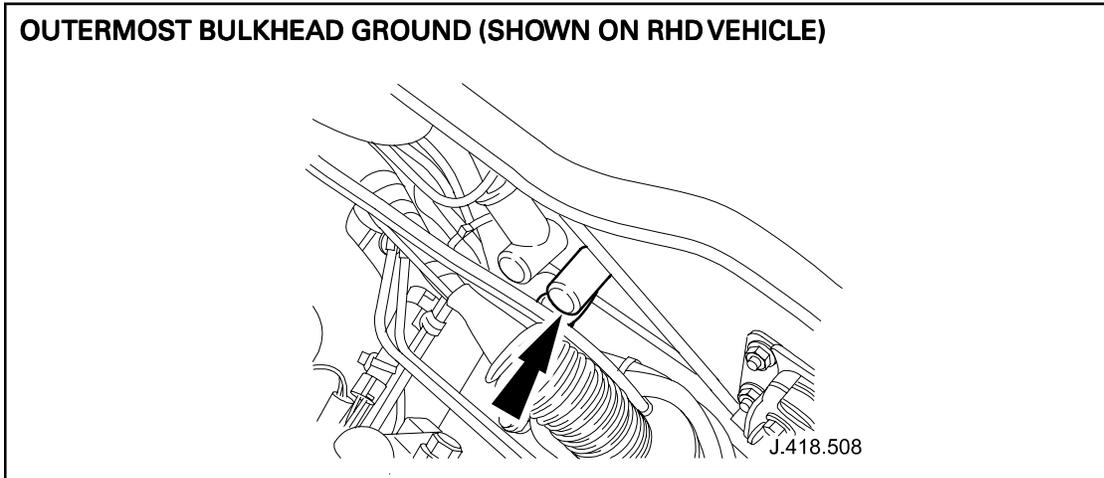


ILLUSTRATION 5

30. Remove outer most ground point protective rubber boot (Illustration 5).
31. Loosen and remove ground point mounting nut.
32. Move aside ground eyelet from ground point mounting post.
33. Clean ground eyelets using emery cloth.
34. Reinstall ground eyelet to ground point mounting post.
35. Reinstall and tighten ground point mounting nut.
36. Reinstall ground point protective rubber boot.
37. Working inside luggage compartment, remove right side forward trim.
38. Remove mounting bolt securing the battery ground cable to the body (Illustration 6).

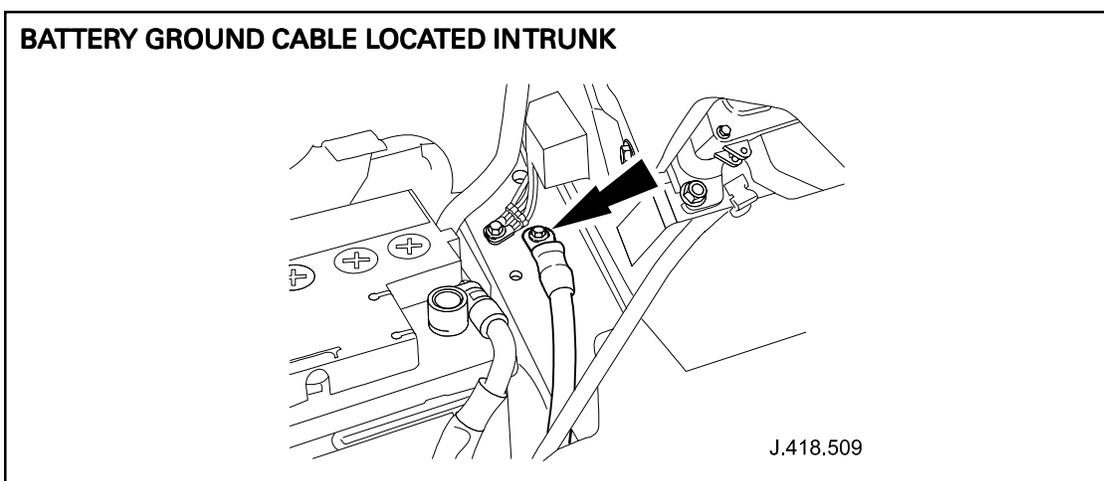


ILLUSTRATION 6

39. Remove the battery ground cable.
40. Clean the battery ground lead eyelet and the body ground point using emery cloth.
41. Reinstall the battery ground cable to body.
42. Reinstall and tighten the battery ground cable to body mounting bolt.
43. Using electrical grease, cover the ground point and any exposed bodywork.
44. Loosen and remove the right side forward most ground point mounting bolt (Illustration 7).

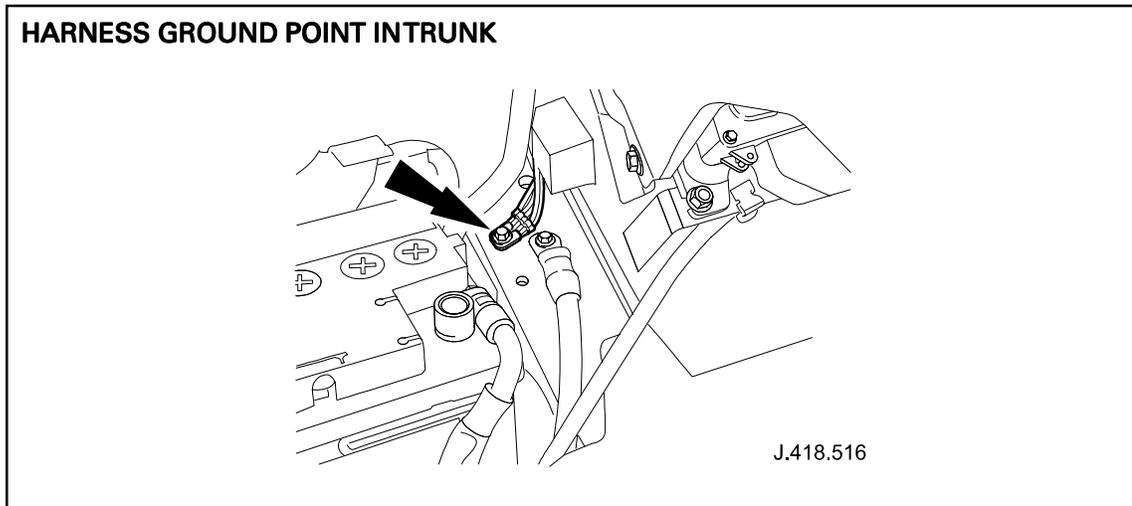


ILLUSTRATION 7

45. Move aside the right side forward ground eyelets.
46. Clean the ground eyelets and the ground point using emery cloth.
47. Reinstall the ground eyelets on the body.
48. Reinstall and tighten the right side forward ground point mounting bolt.
49. Using electrical grease, cover the ground eyelet and any exposed bodywork.
50. Reinstall the right side forward luggage compartment trim.
51. Reconnect the vehicle battery.
52. Load the PDU at the base station with the latest disc.
53. Load datalogger V12 fuelling and check the HO2S reference voltage.

**Note:** See the PDU help text to check for correct operation. If a PDU is not available, use a DVOM to monitor the HO2S reference voltage, which should oscillate frequently.

54. Remove the fender protection covers.
55. Close the luggage compartment.
56. Close the hood.

## INSTALLATION OF AUXILIARY GROUND STRAPS ON XJ 12 VEHICLES ONLY

1. Open the luggage compartment.
2. Open the hood.
3. Place fender protection covers over the front fenders.
4. Disconnect the vehicle battery.

**⚠ Caution:** Ensure that the radio code is available before disconnecting the battery.

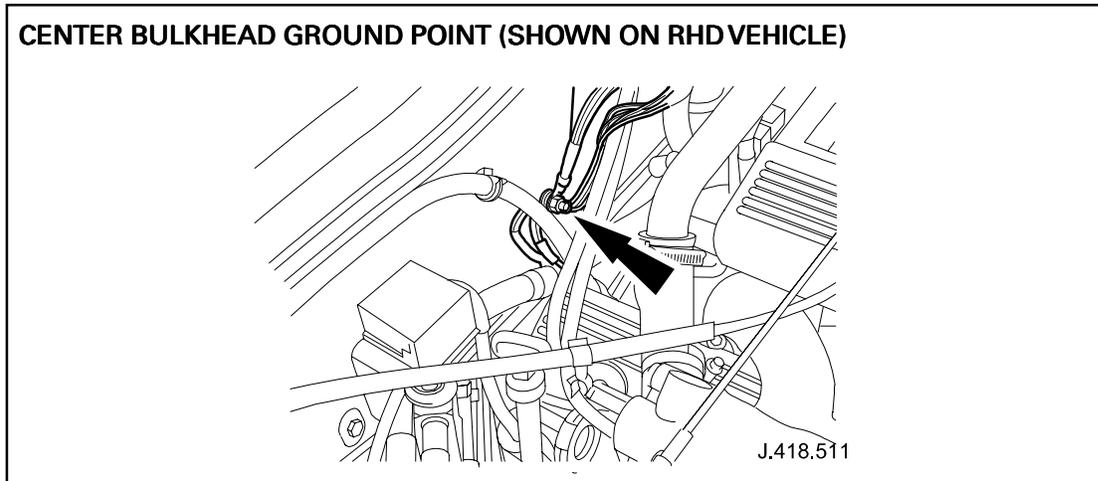
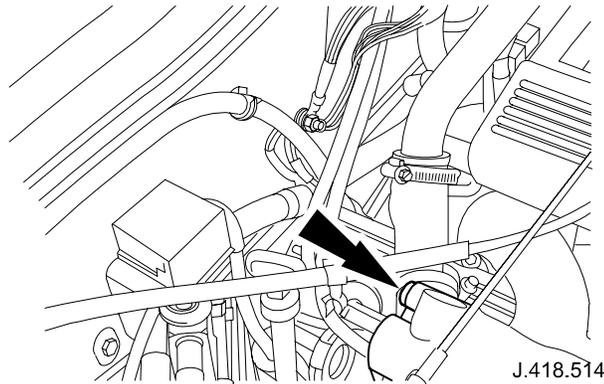


ILLUSTRATION 8

5. Working in the engine compartment, loosen and remove the center bulkhead ground point mounting nut.
6. Move aside the ground lead eyelets.
7. Clean the ground eyelet using emery cloth.
8. Reinstall all four ground eyelets to the ground post and the two supplementary ground leads.
9. Reinstall and tighten the ground point mounting nut.

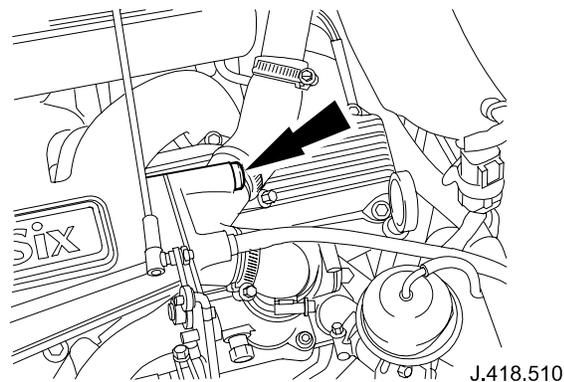
**LOCATION OF TORX BOLT ON RIGHT INTAKE MANIFOLD (SHOWN ON RHD VEHICLE)**



**ILLUSTRATION 9**

10. Loosen and remove the Torx bolt mounting from the rear of the right side intake manifold (Illustration 9).
11. Install one supplementary ground eyelet to the rear of right side intake manifold.
12. Install and tighten the Torx bolt mounting.
13. Loosen and remove the Torx bolt from the rear of the left side intake manifold (Illustration 10).

**LOCATION OF TORX BOLT ON LEFT INTAKE MANIFOLD (SHOWN ON RHD VEHICLE)**



**ILLUSTRATION 10**

14. Install the second supplementary ground eyelet on the rear of the left side intake manifold.
15. Reinstall and tighten the Torx bolt to the rear of the left side intake manifold.
16. Working in the luggage compartment, remove spare wheel cover.

17. Loosen and remove the spare wheel mounting.
18. Remove the spare wheel from the vehicle.
19. Loosen and remove the wheel chock securing wing nuts.
20. Remove the wheel chocks from the mounting bracket.
21. Remove the lug wrench and the jack handle from the mounting bracket.
22. Remove the jack from the mounting bracket.
23. Remove the forward most trim from the luggage compartment.
24. Loosen and remove the right side rear lamp cover securing nuts.
25. Remove the right side rear lamp cover.
26. Remove the right side trim assembly from the luggage compartment.
27. Loosen and remove the battery ground lead securing bolt (Illustration 11).

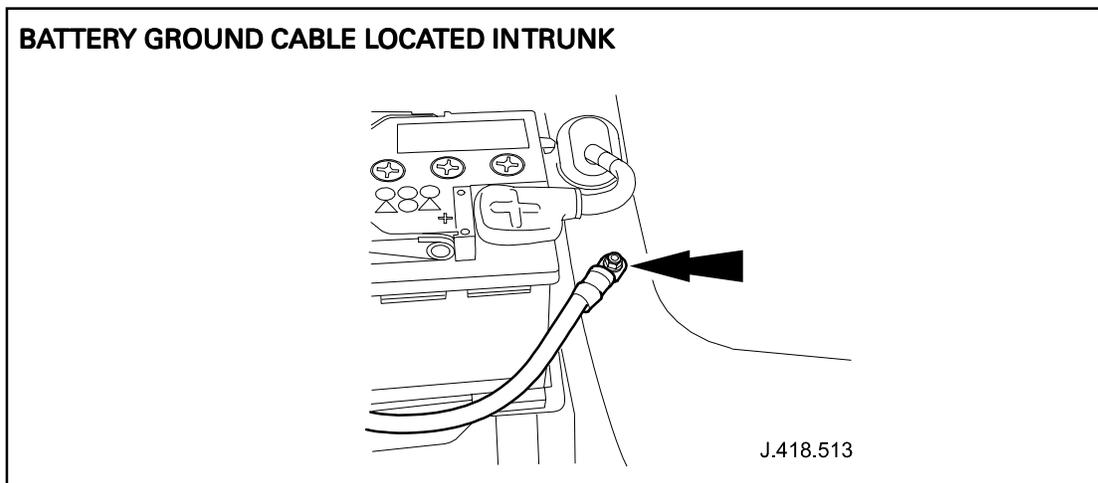


ILLUSTRATION 11

28. Remove the battery ground lead from the vehicle.
29. Clean the battery ground lead eyelet and the body ground point using emery cloth.
30. Reinstall the battery ground cable to the body.
31. Reinstall and tighten the battery ground cable to body mounting bolt.
32. Using electrical grease, cover the ground point and exposed bodywork.

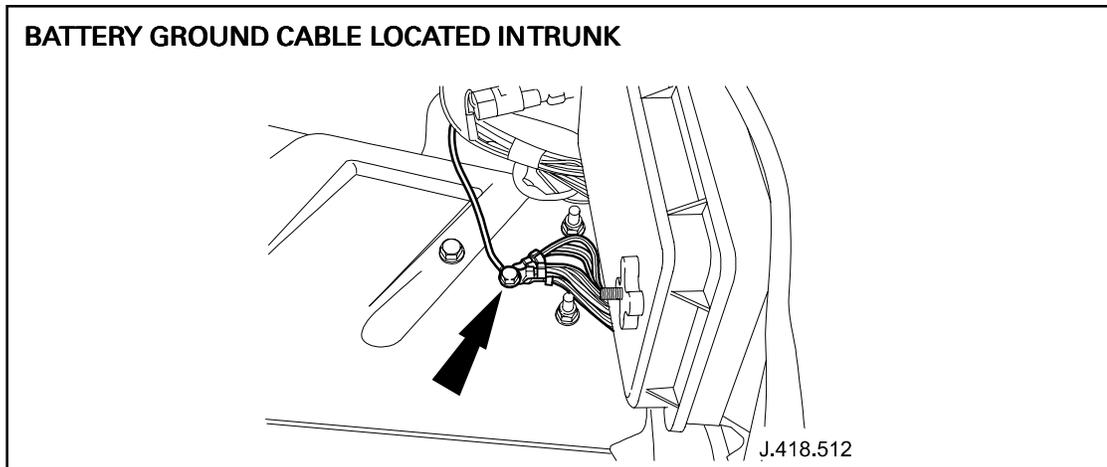


ILLUSTRATION 12

33. Loosen and remove the right side rearward most ground point-mounting bolt (Illustration 12).
34. Move aside the right side rearward most ground eyelets.
35. Clean the ground eyelets and the ground point using emery cloth.
36. Reinstall the ground eyelets to the body.
37. Reinstall and tighten the right side ground point mounting bolt.
38. Using electrical grease, cover the ground eyelet and the exposed bodywork.
39. Reinstall all the luggage compartment trims.
40. Reinstall the right side rear lamp cover.
41. Reinstall and tighten the right side rear lamp cover securing nuts.
42. Reinstall the jack to mounting bracket.
43. Reinstall the lug wrench and jack handle to the mounting bracket.
44. Reinstall the wheel chocks to the mounting bracket.
45. Reinstall the wheel chock securing nuts.
46. Reinstall the spare wheel to vehicle.
47. Reinstall the spare wheel cover.
48. Reconnect the vehicle battery.
49. Reconnect vehicle battery.
50. Load the PDU at the base station with the latest disc.
51. Load datalogger V12 fuelling and check HO<sub>2</sub>S reference voltage.

**Note:** See the PDU help text to check for correct operation. If a PDU is not available, use a DVOM to monitor the HO<sub>2</sub>S reference voltage, which should oscillate frequently.

52. Remove the fender protection covers.
53. Close the luggage compartment.
54. Close the hood.

**PARTS INFORMATION:**

<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>QTY</u>
Ground strap	LJA 3744AC	2

**WARRANTY INFORMATION:**

Service Action S494

<u>VEHICLE</u>	<u>SUMMARY CODE</u>	<u>R.O. NUMBER</u>	<u>DESCRIPTION</u>	<u>TIME ALLOWANCE</u>
XJ12 1994 MY VIN 671007, 671040, 671078, 671110, 671139, 671177, 671224, 672305, 672308 673590-708235 Model code 2111	<b>DB</b>	86.92.84	Install auxiliary ground straps - XJ12 models XJS V12 models	0.60 hrs. 0.70 hrs.

XJSV12 1994-95 MY  
VIN 188105-221234  
Model codes 2100,  
2130, 2140

<u>DESCRIPTION</u>	<u>PART NO.</u>	<u>QTY/VEH</u>
Ground strap	LJA 3744AC	2

<u>VEHICLE</u>	<u>SUMMARY CODE</u>	<u>R.O. NUMBER</u>	<u>DESCRIPTION</u>	<u>TIME ALLOWANCE</u>
XJ12 1994 MY VIN 671007, 671040, 671078, 671110, 671139, 671177, 671224, 672305, 672308 673590-708235 Model code 2111	<b>DD</b>	86.92.84	Install auxiliary ground straps - XJ12 models XJS V12 models	0.60 hrs. 0.70 hrs.
		10.10.10	Drive in/drive out	0.15 hrs.

XJSV12 1994-95 MY  
VIN 188105-221234  
Model codes 2100,  
2130, 2140

<u>DESCRIPTION</u>	<u>PART NO.</u>	<u>QTY/VEH</u>
Ground strap	LJA 3744AC	2

**NOTE:** Always perform a DCS claim search first to determine whether this service action has been performed on this vehicle. The warranty selection under the vehicle inquiry will give a listing of all claims against the vehicle. If S494 appears in the fault code field, do not perform this service action.

**CLAIM SUBMISSION PROCEDURE:**

Warranty summary codes have been assigned to this service action in order to simplify claim submission. The dealership will be reimbursed the parts and labor time allowance as indicated.

**DCS DEALERS**

Submit claims using the appropriate summary code for the vehicle model and work performed. Follow standard campaign submission procedures.

**NON-DCS DEALERS**

Submit claims on the Recall Campaign Summary form W-25. Enter the appropriate summary code for the vehicle model and work performed in the Repair Code column. Do not use the W-1 warranty claim form.

August 2001

**Dear Jaguar Owner:**

Re: Jaguar Service Action S494 – Oxygen Sensor Ground Strap

**1994, 1995 Model Year Jaguar V12 6.0L Engine Vehicles**

Jaguar and the U.S. Environmental Protection Agency have determined that your vehicle may be emitting pollutants in excess of the Federal emission standards or family particulate emission limits. These standards or family particulate emission limits, were established to protect the public health or welfare from the dangers of air pollution.

**What is the problem?**

The purpose of this letter is to inform you as an owner of a 1994, or 1995 model year Jaguar V12 6.0L vehicle that your vehicle may be fitted with an oxygen sensor that has an inconsistent ground condition in the sensor heater circuit. This condition does not affect drivability of your vehicle but it will cause illumination of the MIL (Check Engine Light), and can cause an increase in exhaust emissions. Failure to have this repair performed, over time, may lead to the degradation of your vehicle's catalytic converter.

**What will Jaguar do?**

To correct this concern Jaguar Cars, in agreement with the Environmental Protection Agency (EPA), are initiating a Service Action campaign (S494) that will instruct authorized Jaguar dealers to fit two additional ground straps to all affected vehicles. You should be aware that due to scheduling, your dealer may require your car for one working morning or business day.

**What should you do?**

You are requested therefore to contact, at your earliest convenience, your nearest authorized Jaguar dealer to arrange for this modification to be carried out on your vehicle. This work will be performed by the dealer free of charge and will increase your vehicle's emission system performance and enhance it's reliability. Such a non-conformity may cause your vehicle to fail an emission test when such tests are required under state or local law.

In order to ensure your full protection under the emission warranty made applicable to your vehicle by Federal law, and your right to participate in future recalls, it is recommended that you have your vehicle serviced as soon as possible. Failure to do so could legally be determined to be a lack of proper maintenance of your vehicle.

**Where is the closest Jaguar Dealer?**

Should you have any questions regarding this Service Action or need assistance in locating your nearest authorized Jaguar dealer please contact the Jaguar Customer Relationship Center on 1-800-4-JAGUAR.

**Moved or no longer own a Jaguar?**

Please fill out the enclosed card and return it to Jaguar by simply putting it in the mail.

Should you have the need to contact Jaguar by mail, please use the following address:

Jaguar Cars  
ATTN: Customer Relationship Center  
555 MacArthur Boulevard  
Mahwah, NJ 07430-2327

If your dealer and the Jaguar Customer Relationship Center are unable to perform the repairs within a reasonable time, you may wish to contact the U.S. Environmental Protection Agency at the following address:

U.S. Environmental Protection Agency  
National Vehicle and Fuel Emissions Laboratory  
Certification And Compliance Division  
2000 Traverwood  
Ann Arbor, Michigan 48105

Yours sincerely

Gary Temple  
Vice President – Customer Care