

# **SERVICE PROCEDURE**

**G-07501**  
**April 2007**

**SUBJECT: SAFETY RECALL (U.S., EXPORT)  
BATTERY CABLES on certain 9000 Models built  
4/1/2002 thru 12/25/2006 with Caterpillar® Engines**

## **DEFECT DESCRIPTION**

The positive battery cables, that supply power from the batteries to the starter, may rub against an electrical ground cable between the engine and the starter, an electrical ground cable between the frame rail and the starter, or the frame rail itself. This rubbing may cause an electrical short and/or fire, which can result in property damage, personal injury or death.

## **MODELS INVOLVED**

This Safety Recall involves 9100, 9200, 9400 and 9900 models built according to the configuration below:

- Manufactured at International's Chatham, Ontario facility:
  - w/Caterpillar C10, C11, C12 or C13 engines: 4/1/2002 thru 9/28/2006
  - w/Caterpillar C15 or C16 engines: 4/1/2002 thru 11/20/2006
- Manufactured at International's Escobedo (Monterrey, Mexico) facility:
  - w/Caterpillar C10, C11, C12 or C13 engines: 4/1/2002 thru 9/28/2006
  - w/Caterpillar C15 or C16 engines: 4/1/2002 thru 12/25/2006

***This Safety Recall supersedes G-05514 for vehicles with CATERPILLAR ENGINES ONLY.***

***Vehicles with Caterpillar engines formerly requiring G-05514 should no longer have that procedure performed – ONLY COMPLETE THIS RECALL, G-07501.***

***PLEASE NOTE: This recall, G-07501, must be completed regardless of any previous disposition of G-05514.***

## **PARTS INFORMATION**

The following parts kit is required for any vehicle with **Caterpillar C10, C11, C12, or C13 engines only:**

<b>Part Number</b>	<b>Part Description</b>	<b>Quantity</b>
<b>8900194R91</b>	KIT,RECALL SERVICE KIT C13	<b>1</b> <b>Refer to Lineset Ticket for Engine Type</b>

**8900194R91** Contains the following parts:

<b>Part Number</b>	<b>Part Description</b>	<b>Quantity</b>
<b>3668863C1</b>	EXTENSION, BATTERY CABLE MTG,	<b>1</b>
<b>3665221C1</b>	EXTENSION, BATTERY CABLE CLIPPING	<b>1</b>
<b>3666754C1</b>	EXTENSION, BATTERY CABLE CLIPPING	<b>1</b>
<b>30019R1</b>	BOLT, BOLT, HEX HD M10-1.5 X 20	<b>2</b>
<b>996593C1</b>	WASHER, LOCK M10	<b>4</b>
<b>30754R1</b>	NUT, M10, HEX PREV TORQUE FLANGE	<b>2</b>
<b>3553742C1</b>	GUIDE,BRK HOSE & CABLE, 2-WAY	<b>4</b>
<b>3667668C1</b>	Strap-Locks, 1/2	<b>15</b>
<b>25483R1</b>	BOLT, HH 1/4-20 UNC X 1.0 PHC GRADE 8	<b>3</b>
<b>120380</b>	1/4 ZN/CLR CHROM MED LOCK WASHER	<b>3</b>
<b>25519R1</b>	1/4 - 20 PHOS/OIL DRY TO TOUCH NC	<b>3</b>
<b>27578R1</b>	BOLT, 12 POINT 5/8" X 2"	<b>1</b>
<b>2594107C1</b>	DOUBLE STUD OILPAN BOLT (CAT P/N 287-3049)	<b>2</b>

The following parts kit is required for any vehicle with **Caterpillar C15 or C16 engines only**:

<b>Part Number</b>	<b>Part Description</b>	<b>Quantity</b>
<b>8900195R91</b>	KIT,RECALL SERVICE KIT C15	<b>1</b> <b>Refer to Lineset Ticket for Engine Type</b>

**8900195R91** Contains the following parts:

<b>Part Number</b>	<b>Part Description</b>	<b>Quantity</b>
<b>3665163C1</b>	EXTENSION, BATTERY CABLE MTG	<b>1</b>
<b>3665221C1</b>	EXTENSION, BATTERY CABLE CLIPPING	<b>1</b>
<b>91403000</b>	3/8 ZN/CLEAR MED LOCK WASHER RET	<b>2</b>
<b>1515459C1</b>	3/8 - 16 PHOS/OIL TYPE GT FLANGE	<b>2</b>
<b>3553742C1</b>	GUIDE,BRK HOSE & CABLE, 2-WAY	<b>4</b>
<b>3667668C1</b>	Strap-Locks, 1/2	<b>15</b>
<b>25483R1</b>	BOLT, HH 1/4-20 UNC X 1.0 PHC GRADE 8	<b>3</b>
<b>120380</b>	1/4 ZN/CLR CHROM MED LOCK WASHER	<b>3</b>
<b>25519R1</b>	1/4 - 20 PHOS/OIL DRY TO TOUCH NC	<b>3</b>
<b>27578R1</b>	BOLT, 12 POINT 5/8" X 2"	<b>1</b>
<b>2594106C1</b>	DOUBLE STUD OILPAN BOLT (CAT P/N 238-4664)	<b>2</b>

The following additional parts kit is required for any vehicle, regardless of Caterpillar engine type, with feature code **0001GTC**, **CROSSMEMBER**, **FRAME TIE Deep Drop; Mounted Between Front Cab Mounting Brackets**:

Part Number	Part Description	Quantity
<b>8900196R91</b>	KIT,RECALL SERVICE BELLY BAND	<b>1</b> <b>Refer to Lineset Ticket for 0001GTC</b>

**8900196R91** Contains the following parts:

<i>Part Number</i>	<i>Part Description</i>	<i>Quantity</i>
<b>3667231C1</b>	EXTENSION, BATTERY CABLE	<b>1</b>
<b>3553742C1</b>	GUIDE,BRK HOSE & CABLE, 2-WAY	<b>1</b>
<b>3667668C1</b>	Strap-Locks, 1/2	<b>6</b>
<b>25483R1</b>	BOLT, HH 1/4-20 UNC X 1.0 PHC GRADE 8	<b>1</b>
<b>120380</b>	1/4 ZN/CLR CHROM MED LOCK WASHER	<b>1</b>
<b>25519R1</b>	1/4 - 20 PHOS/OIL DRY TO TOUCH NC	<b>1</b>

## SERVICE PROCEDURE



**WARNING:**

***TO PREVENT SERIOUS EYE INJURY, ALWAYS WEAR SAFE EYE PROTECTION WHEN YOU PERFORM VEHICLE MAINTENANCE OR SERVICE.***



**WARNING:**

***TO PREVENT UNEXPECTED MOVEMENT OF THE VEHICLE AND POSSIBLE SERIOUS PERSONAL INJURY OR DEATH, BLOCK THE WHEELS TO PREVENT THE VEHICLE FROM MOVING IN BOTH DIRECTIONS.***



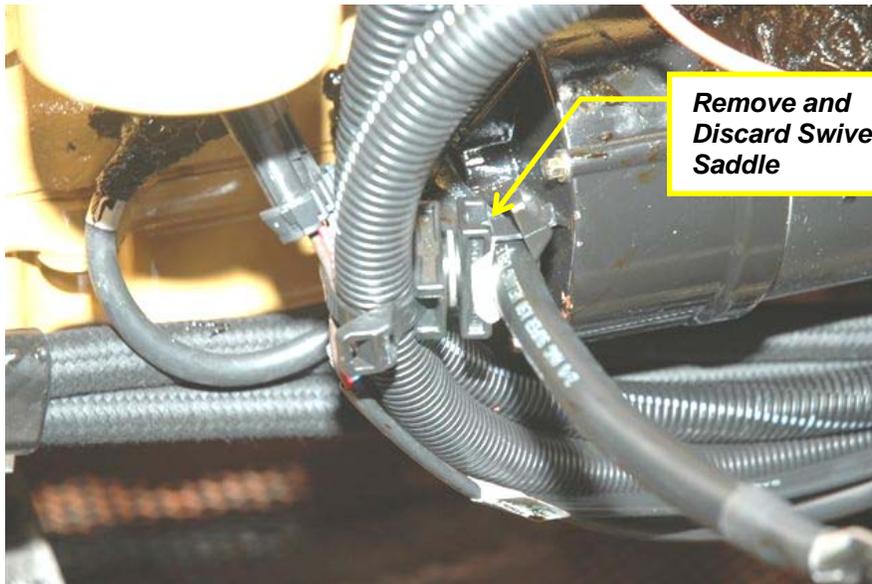
**WARNING:**

***TO AVOID PERSONAL INJURY OR DEATH, KEEP FLAMES OR SPARKS AWAY FROM VEHICLE AND DO NOT SMOKE. BATTERIES EXPEL EXPLOSIVE GASES.***

1. Disconnect the positive **and** negative cables from their terminals in the battery box.
2. Remove all strap-locks on the positive and negative battery cables between the starter and battery box.

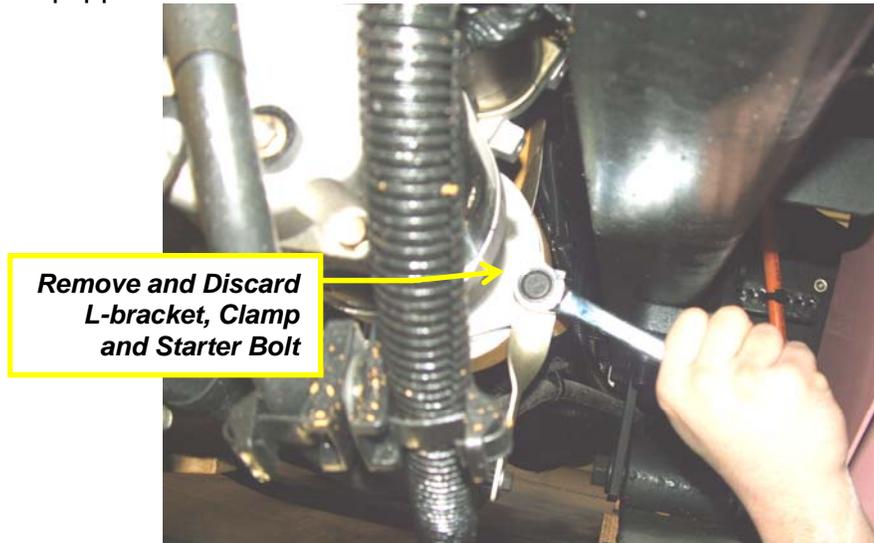
**NOTE: Loosen battery box rubber clamp to allow complete removal of battery cables from battery box.**

3. Remove swivel saddle clamp from between forward loop of positive cables, and frame ground cable.



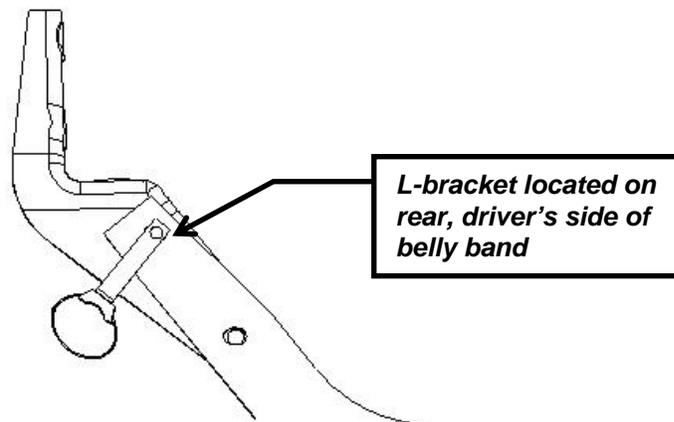
**Figure 1**

4. Remove and discard starter L-bracket, clamp and 12-point starter bolt, if equipped.



**Figure 2**

5. If vehicle was built with feature code **001GTC** - *CROSSMEMBER, FRAME TIE Deep Drop; Mounted Between Front Cab Mounting Brackets*, also referred to as a 'belly band,' remove and discard the L-bracket and clamp connected to the rear of the belly band.



**Figure 3 – Belly Band Looking Forward**

6. **Carefully inspect the entire length of the positive and negative battery cables for evidence of rubbing or chafing. If any significant chafing damage is found, replace the damaged cable.**

The following steps are for C10, C11, C12 and C13 engines, for C15 and C16 engines, please skip to step 13.

7. Install the forward engine block mounting bracket.

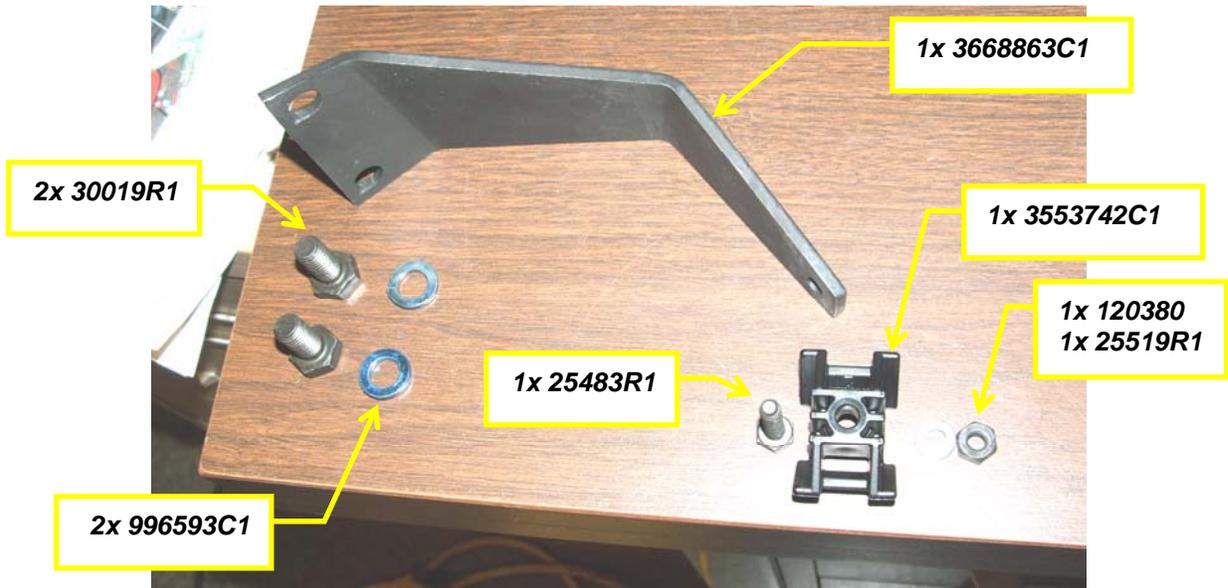


Figure 4a – Forward Engine Block Mounting Bracket Parts.

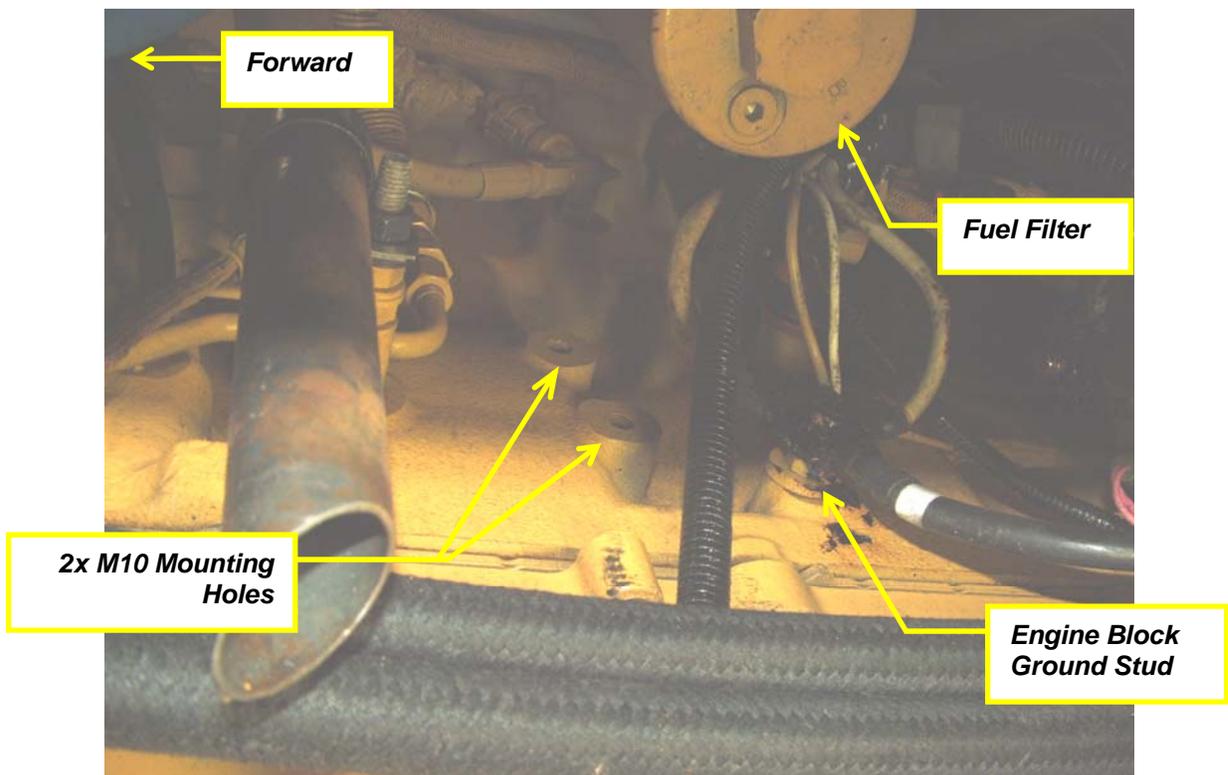
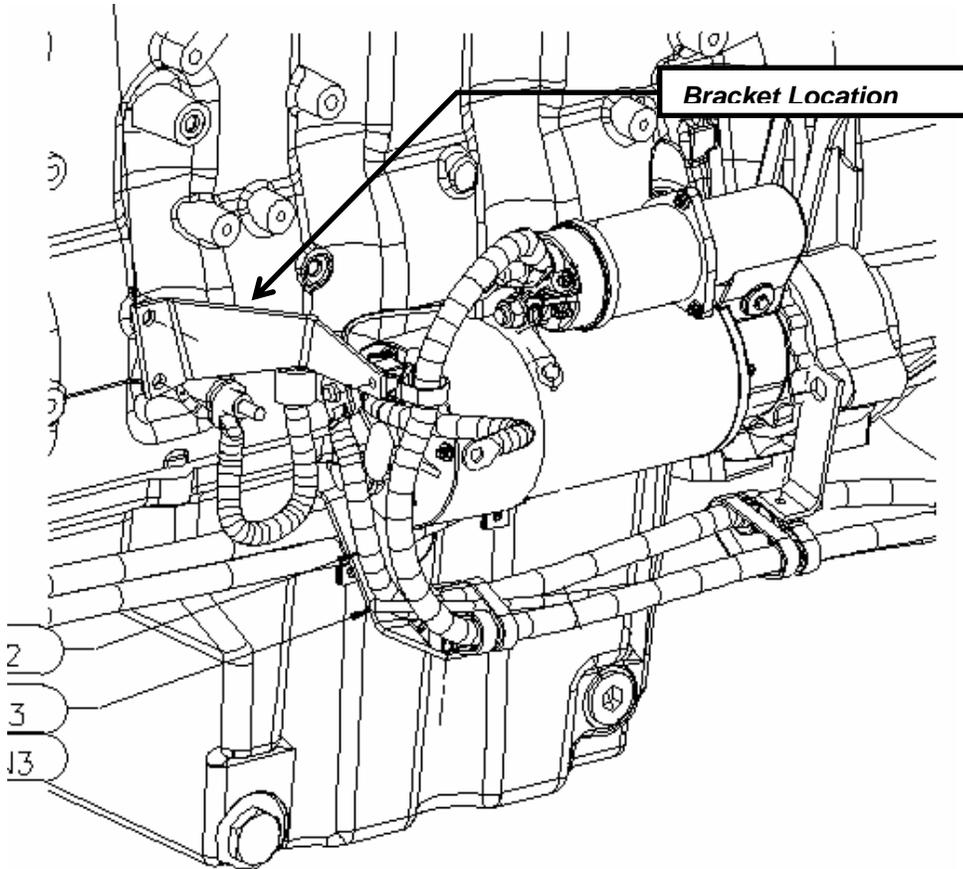
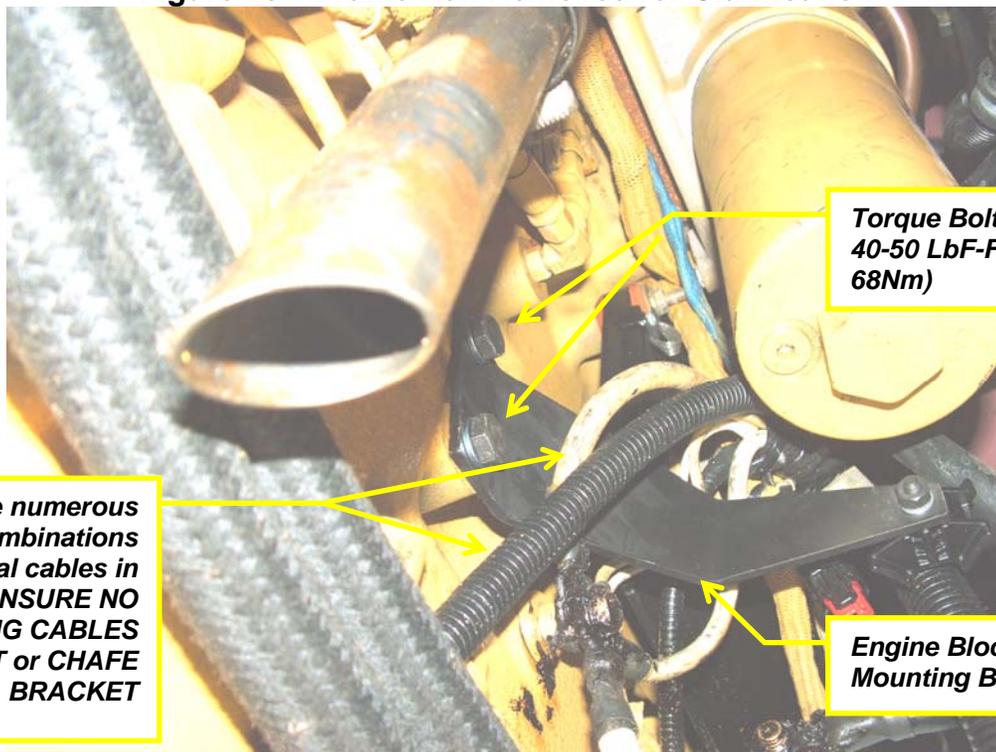


Figure 4b – Mounting Holes in Engine Block -- View from Below



**Figure 4c – Frame Rail Removed for Clarification**



**Figure 4d – In Vehicle**

8. Remove the transmission oil cooler hose L-bracket from the oil pan double stud bolt.

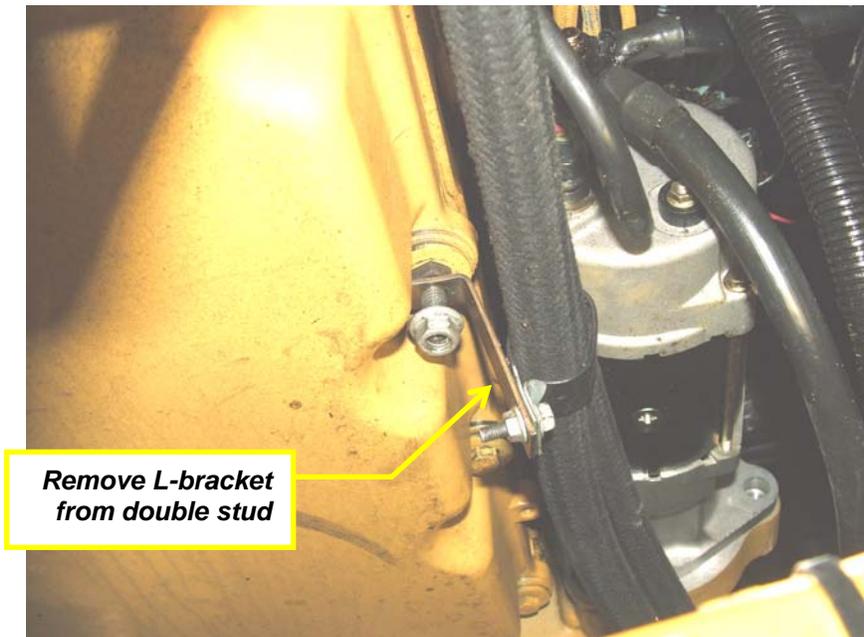


Figure 5

9. Remove the double stud bolt from the oil pan. Replace with new double stud bolt, reuse existing spacers (washers). Torque new double stud bolt to **33-48 LbF-Ft (45-65Nm)**.
10. Loosen transmission oil cooler hose clamp and slide **FORWARD** to the next oil pan bolt.
11. Remove oil pan bolt and replace with second new double stud bolt. Torque second new double stud bolt to **33-48 LbF-Ft (45-65Nm)**. – Do not install L-bracket on new double stud at this time

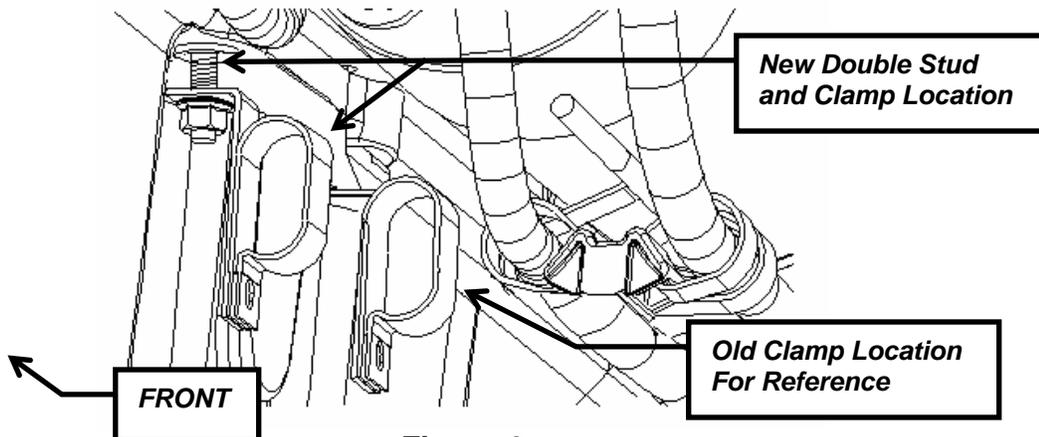
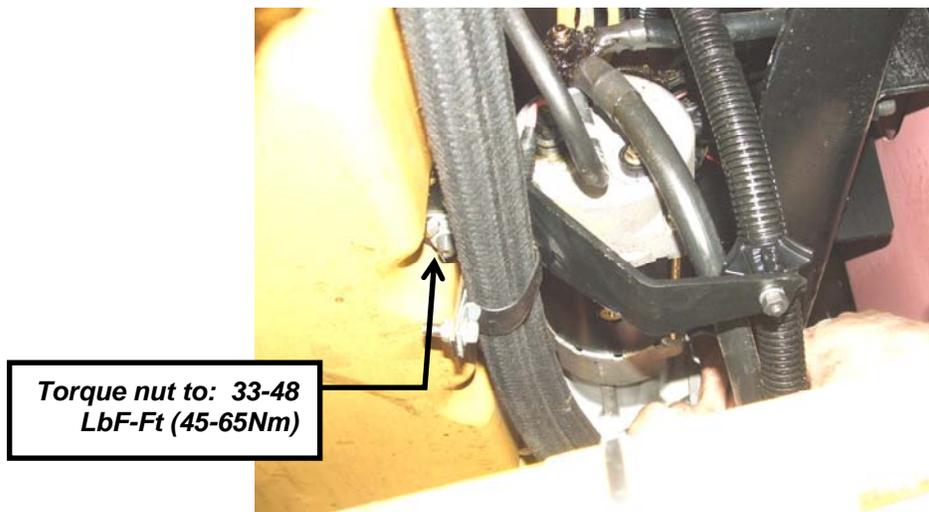
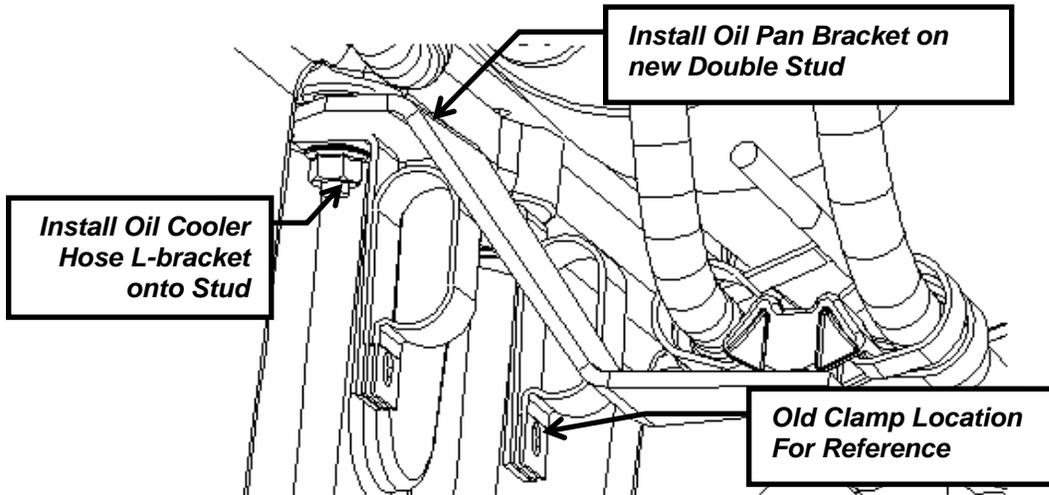
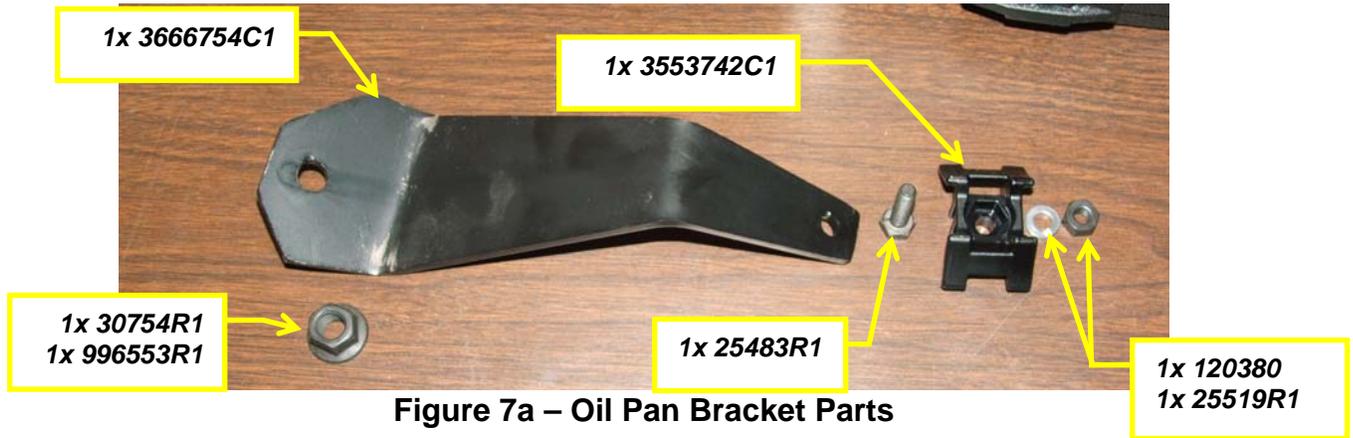


Figure 6

12. Install oil pan rail mounting bracket.



The following steps are for C15 and C16 engines, for remainder of Service Procedure, skip to step 19.

13. Remove the transmission oil cooler hose L-bracket from the oil pan double stud bolt.

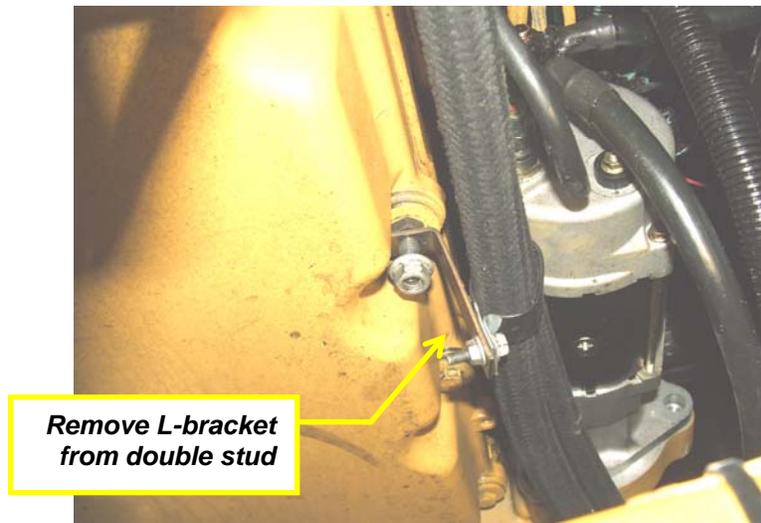


Figure 8

14. Remove the double stud bolt from the oil pan. Replace with new double stud bolt, reuse existing spacers (washers). Torque new double stud bolt to **28-41 LbF-Ft (38-56Nm)**.
15. Loosen transmission oil cooler hose clamp and slide **FORWARD** to the next oil pan bolt.
16. Remove oil pan bolt and replace with second new double stud bolt. Torque second new double stud bolt to **28-41 LbF-Ft (38-56Nm)**. – Do not install L-bracket on new double stud at this time

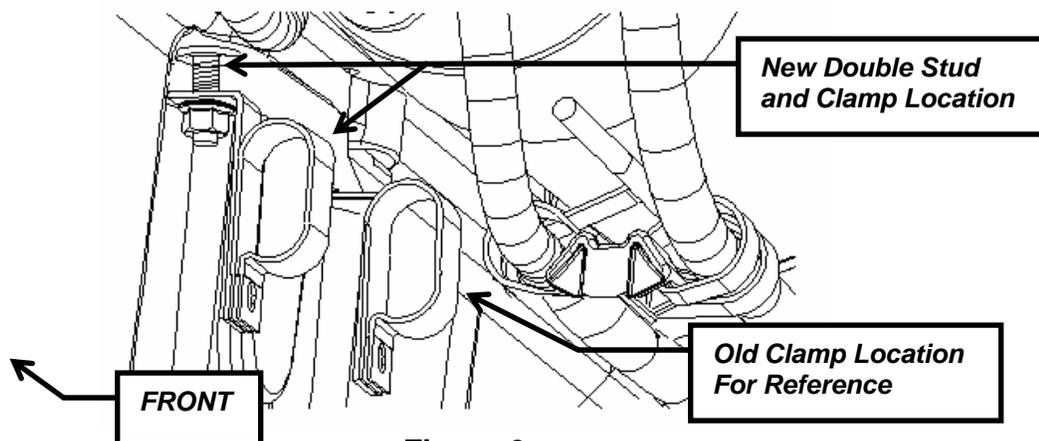


Figure 9

17. The C15 and C16 engine uses a single combination bracket in place of the C10, C11, C12, & C13's engine block *and* Oil Pan mounting Bracket.

18. Install Single Forward Mounting Bracket (C15/C16 only).

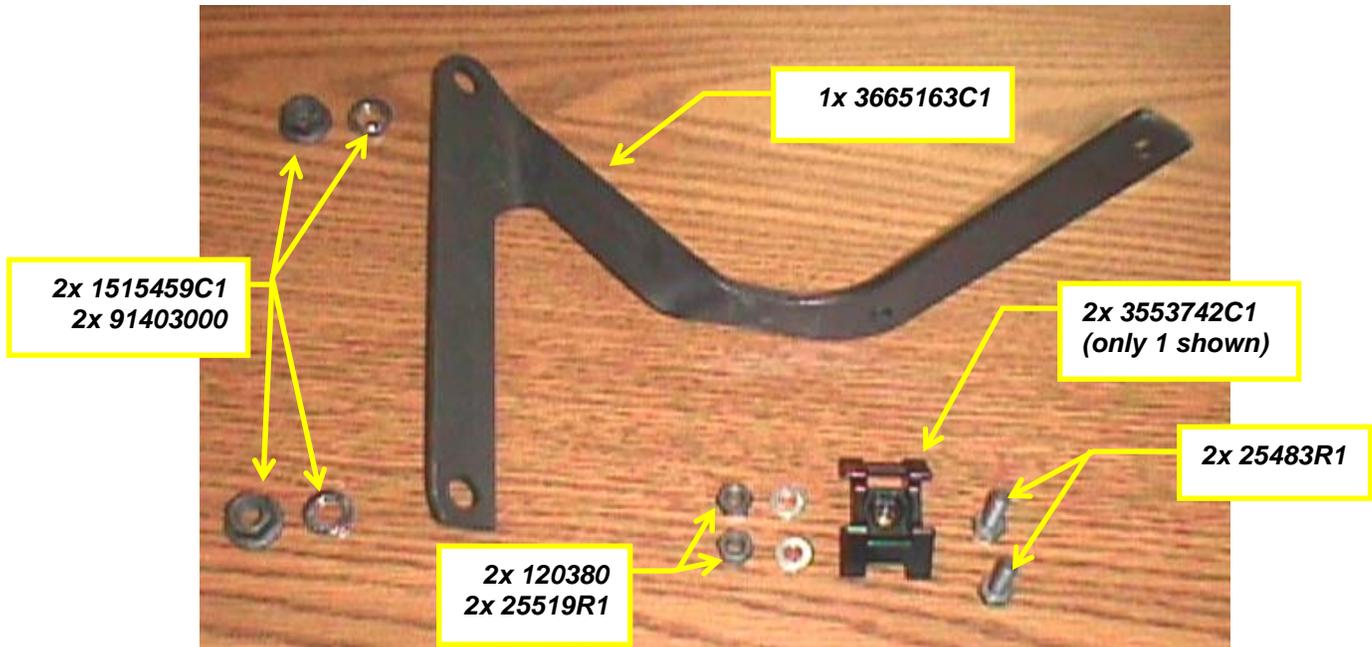


Figure 10a – Combination Bracket Parts

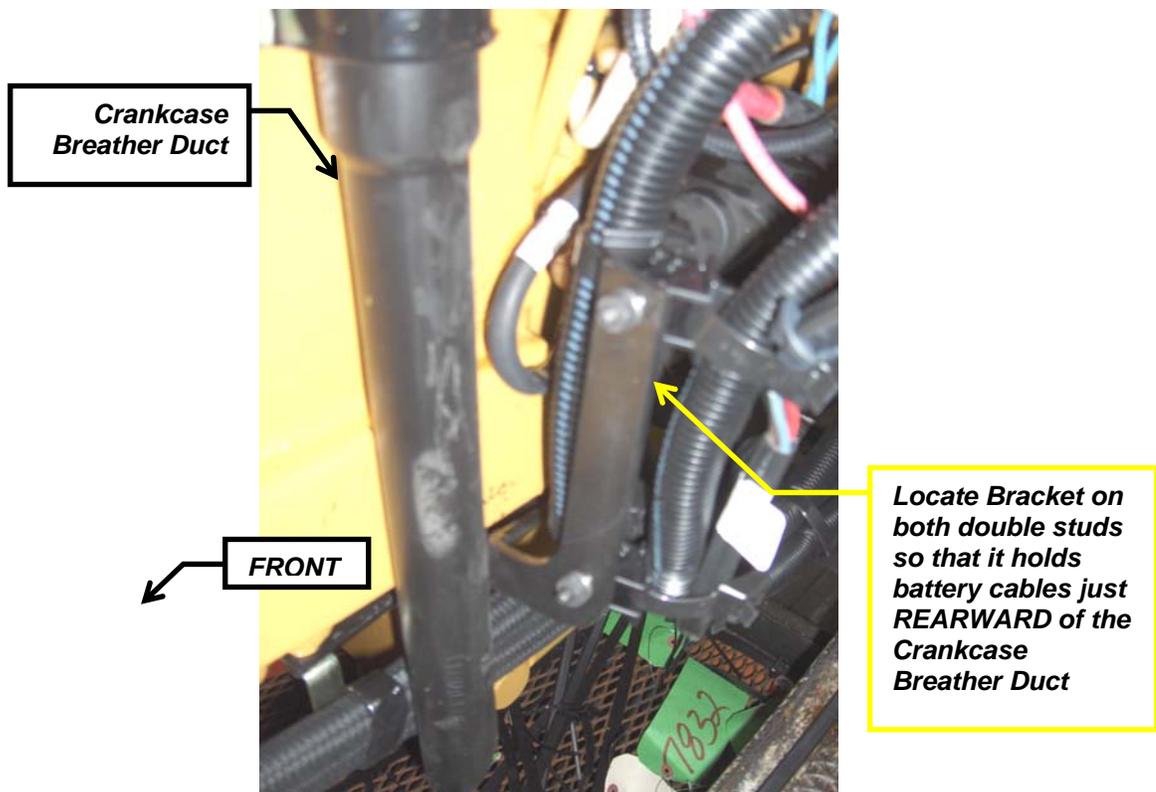
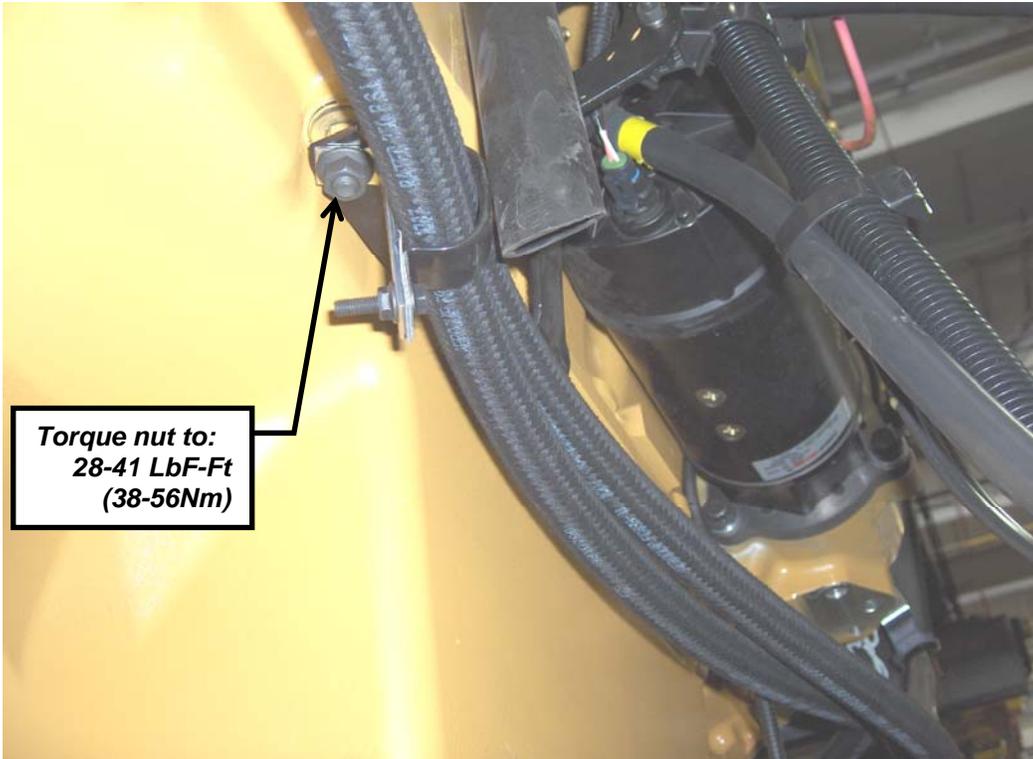
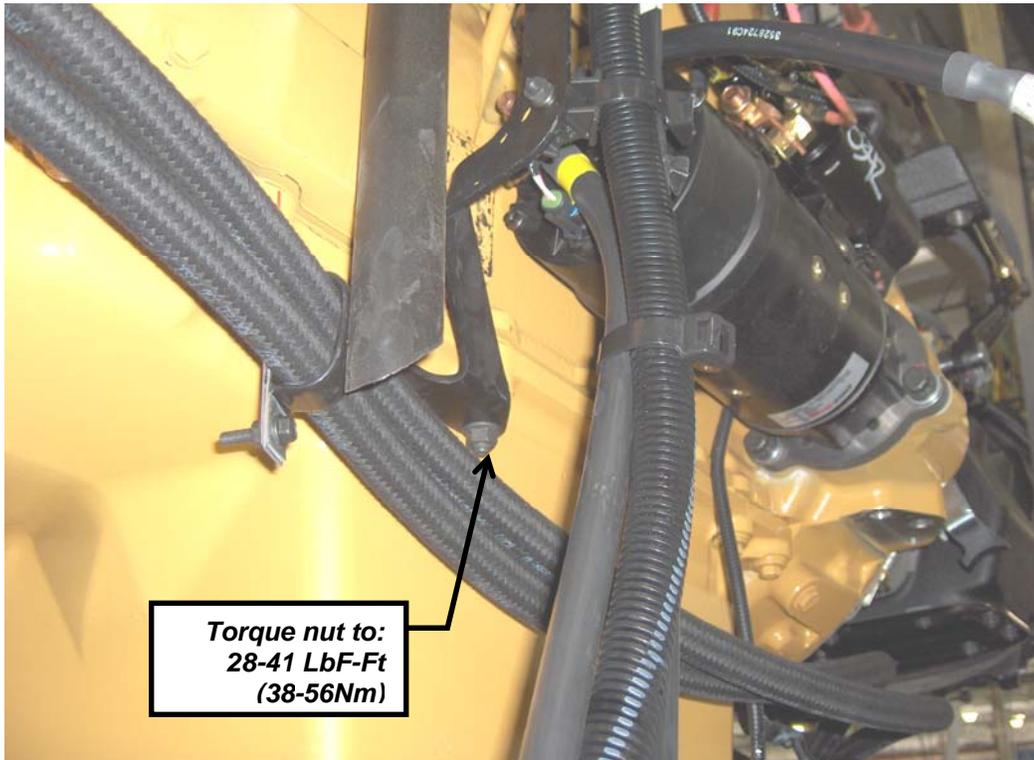


Figure 10b – Locate Bracket Rearward of Breather



**Figure 10c – In Vehicle – Oil Cooler Hose L-bracket Location**



**Figure 10d – In Vehicle – Frame Rail Removed for Clarity**

The following steps are for the following configurations only:

- 9900ix, all engines, all configurations
- 9100, 9200, 9400 & 9900, all engines, without belly band

***Do not install a starter mounting L-bracket on 9100, 9200, 9400, 9900 built with 0001GTC – Belly Band.***

19. Install the starter mounting L-bracket.

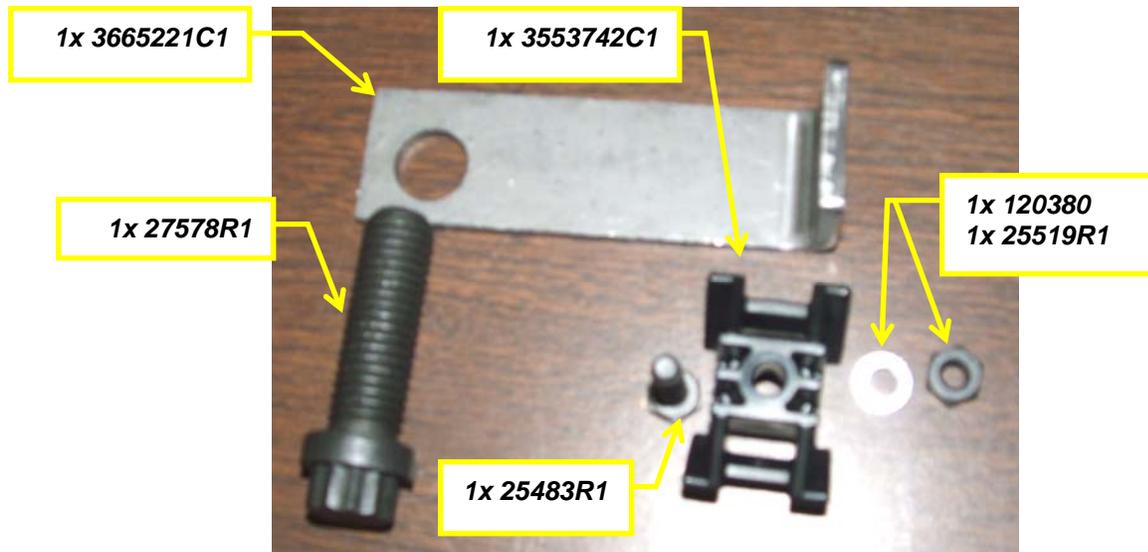


Figure 11a – Starter Mounting L-bracket Parts

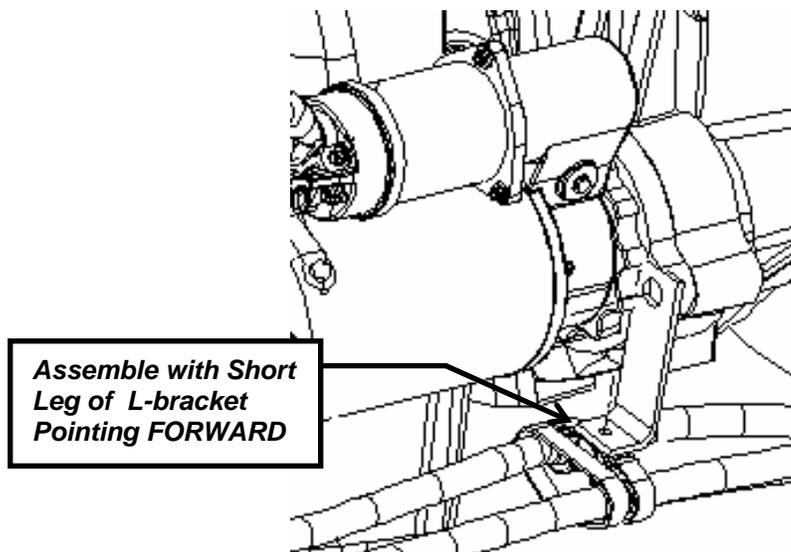


Figure 11b – Frame Rail Removed for Clarification

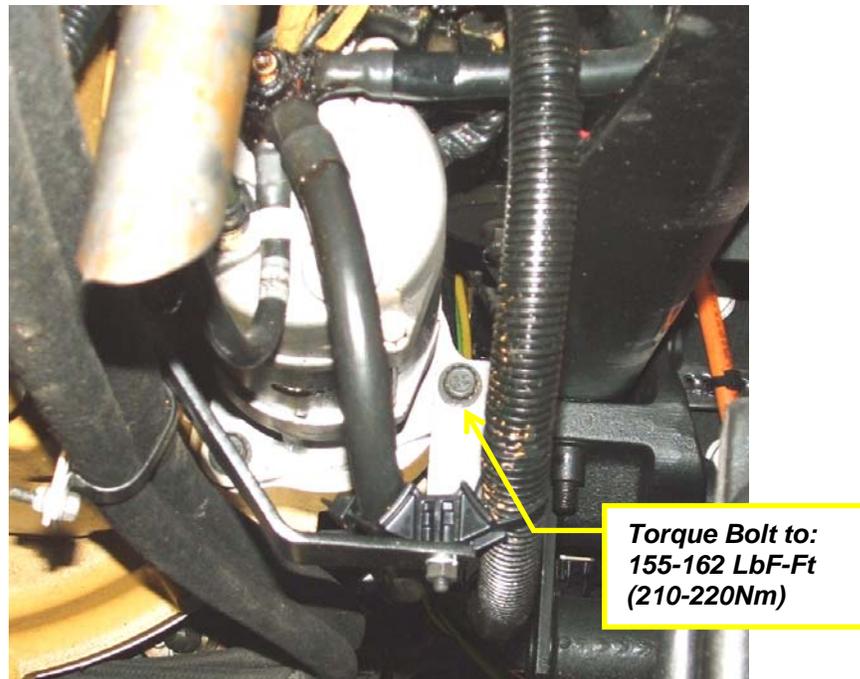


Figure 11c – In Vehicle

The following steps are for vehicles built with feature code 0001GTC, a belly band, if your vehicle does not have a belly band, skip to step 21.

20. Install new belly band bracket on rear side of belly band using existing hardware. Torque bolts to **220-240 LbF-Ft (298-325Nm)**.

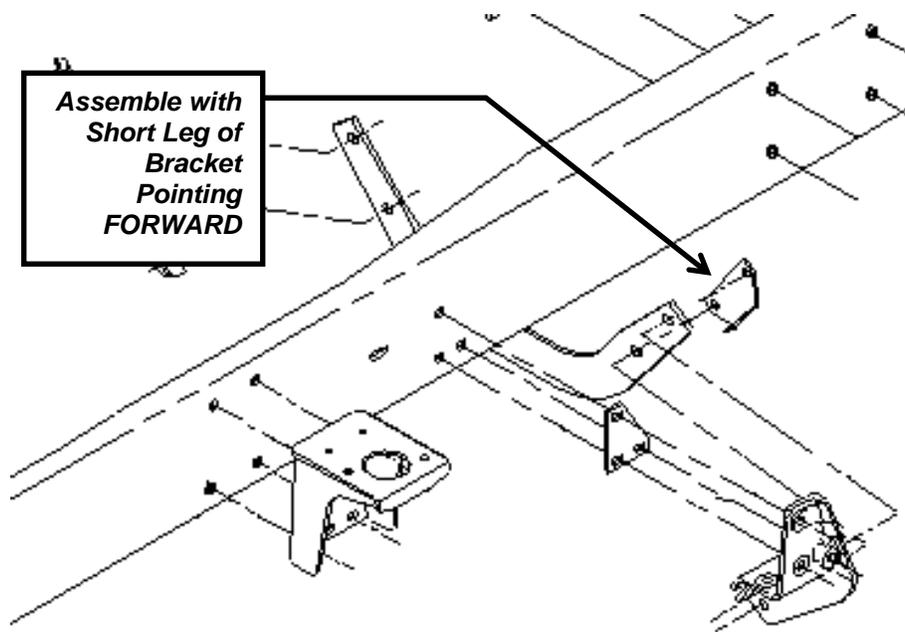


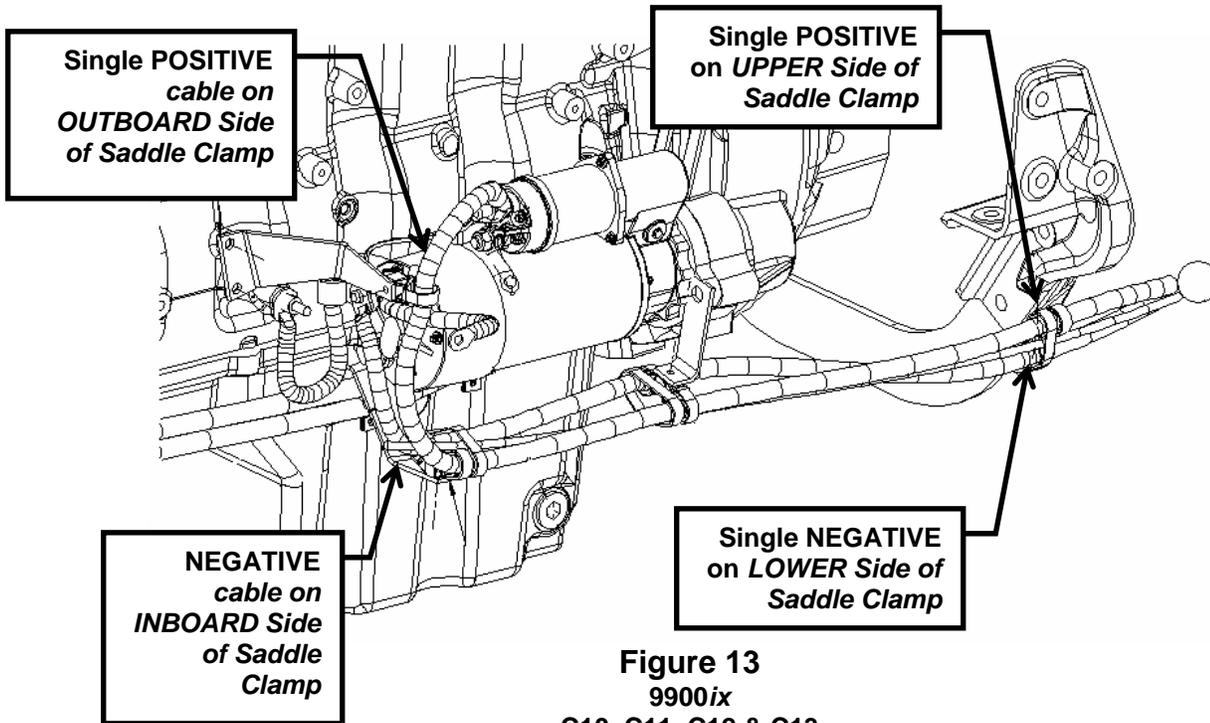
Figure 12

**The following steps are for ALL engines.**

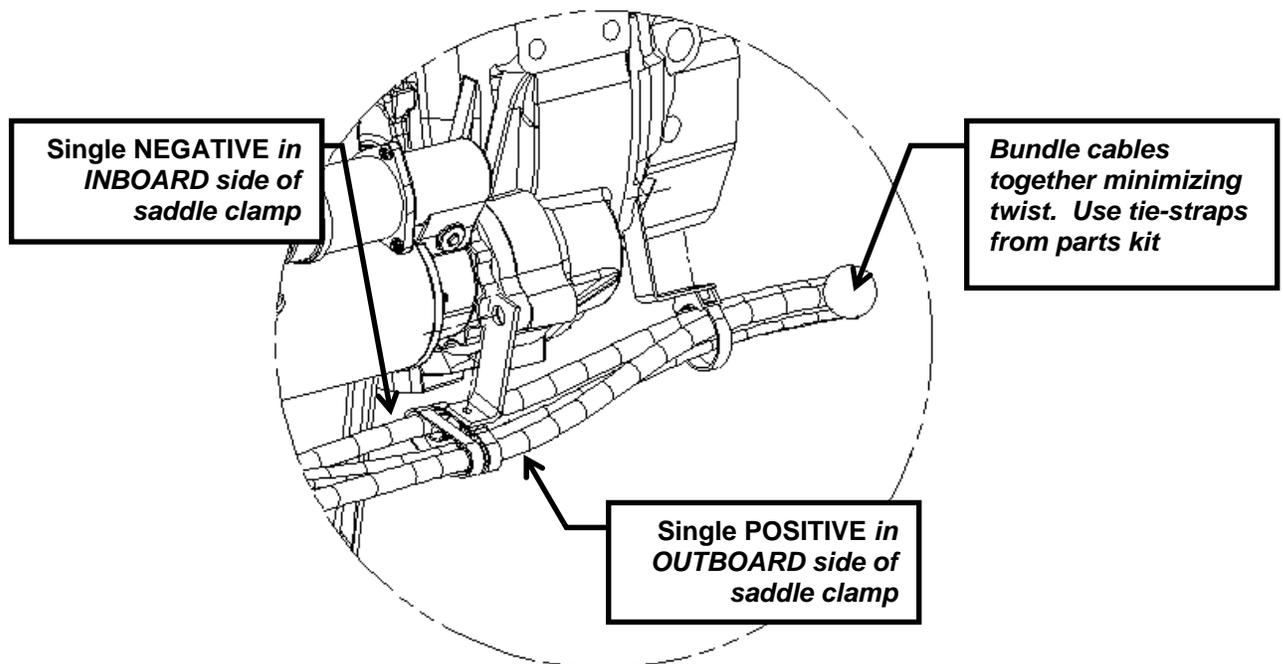
21. Based on the vehicle configurations listed below in Table 1, refer to the following figures for the proper routing of the forward section of battery cables.

<b><i>ENGINE</i></b>	<b><i>MODEL</i></b>	<b><i>BATTERY BOX LOCATION</i></b>	<b><i>REFERENCE FIGURES</i></b>
C10, C11, C12 & C13	9900ix	Under CAB	<b>13 &amp; 14</b>
C10, C11, C12 & C13	9900ix	Back of CAB	<b>15 &amp; 16</b>
C10, C11, C12 & C13	9100, 9200, 9400, 9900	Under CAB	<b>21 &amp; 22</b>
C10, C11, C12 & C13	9100, 9200, 9400, 9900	Back of CAB	<b>23 &amp; 24</b>
C15 & C16	9900ix	Under CAB	<b>17 &amp; 18</b>
C15 & C16	9900ix	Back of CAB	<b>19 &amp; 20</b>
C15 & C16	9100, 9200, 9400, 9900	Under CAB	<b>27 &amp; 28</b>
C15 & C16	9100, 9200, 9400, 9900	Back of CAB	<b>25 &amp; 26</b>

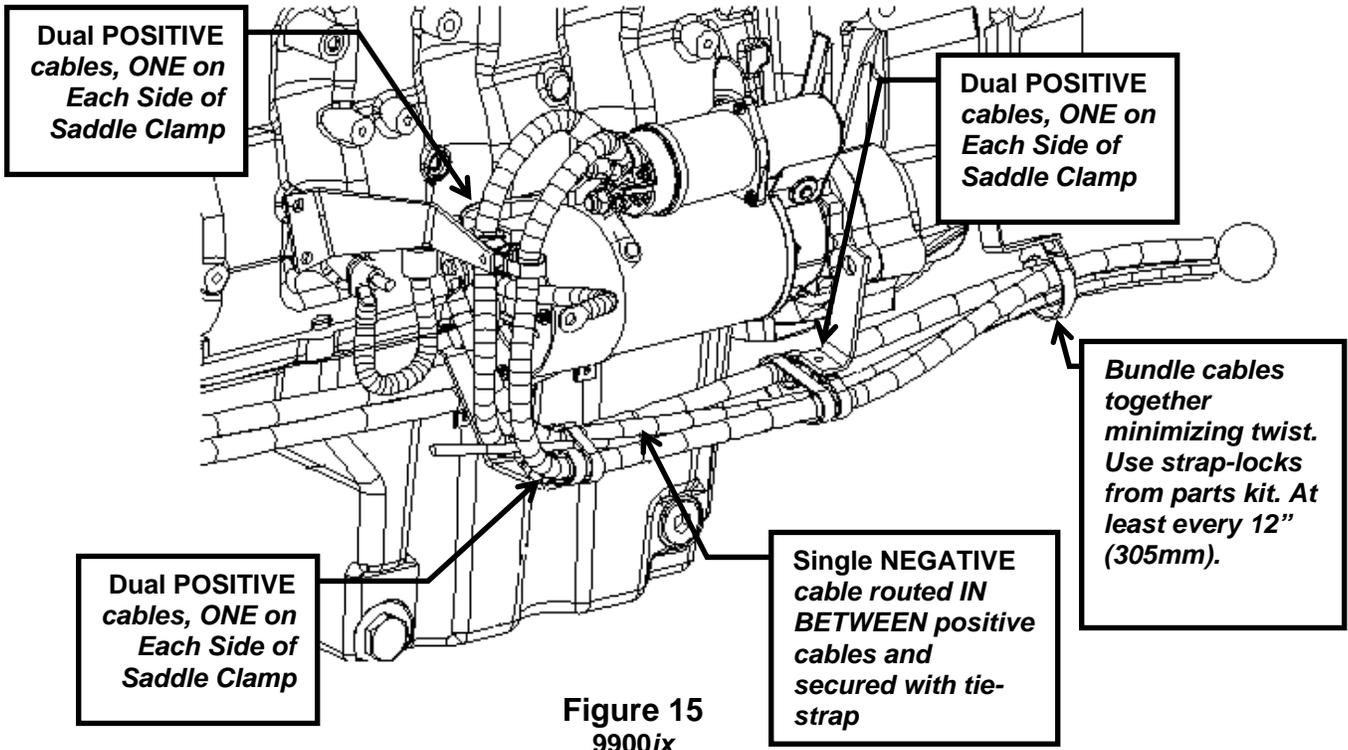
**Table 1**



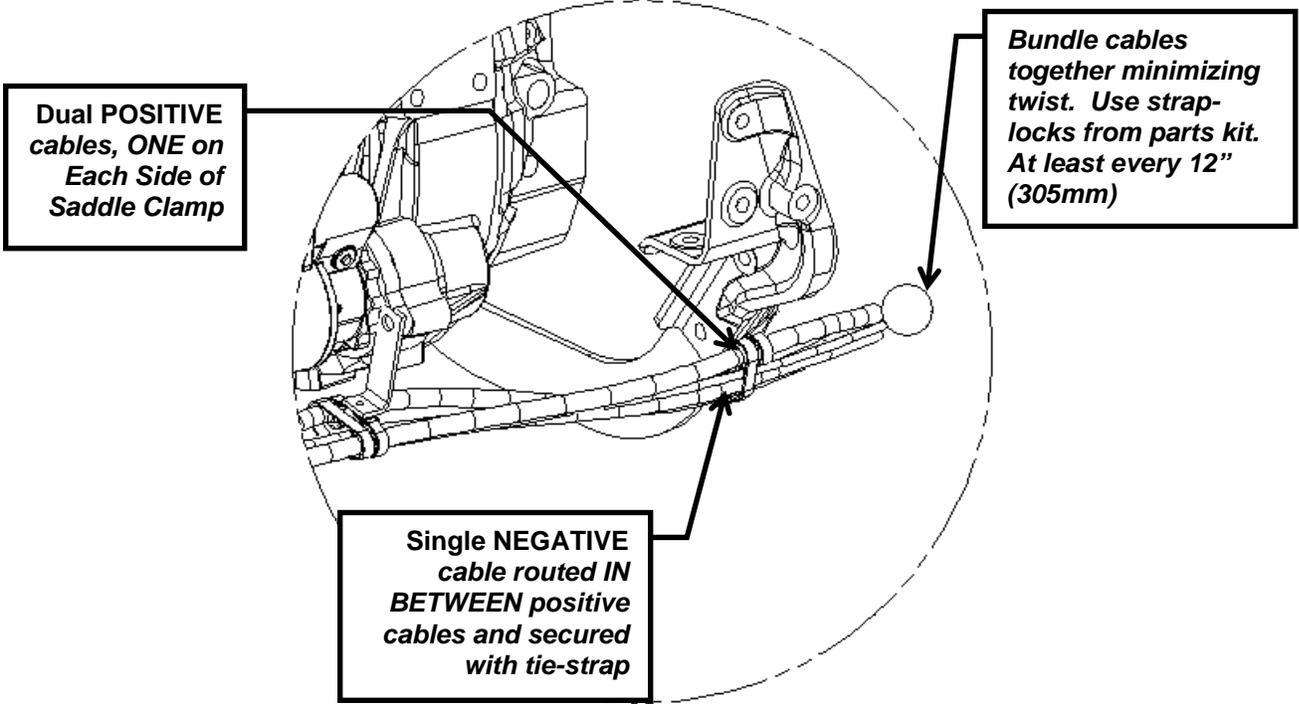
**Figure 13**  
 9900ix  
 C10, C11, C12 & C13  
 Under CAB Battery Box and Belly Band



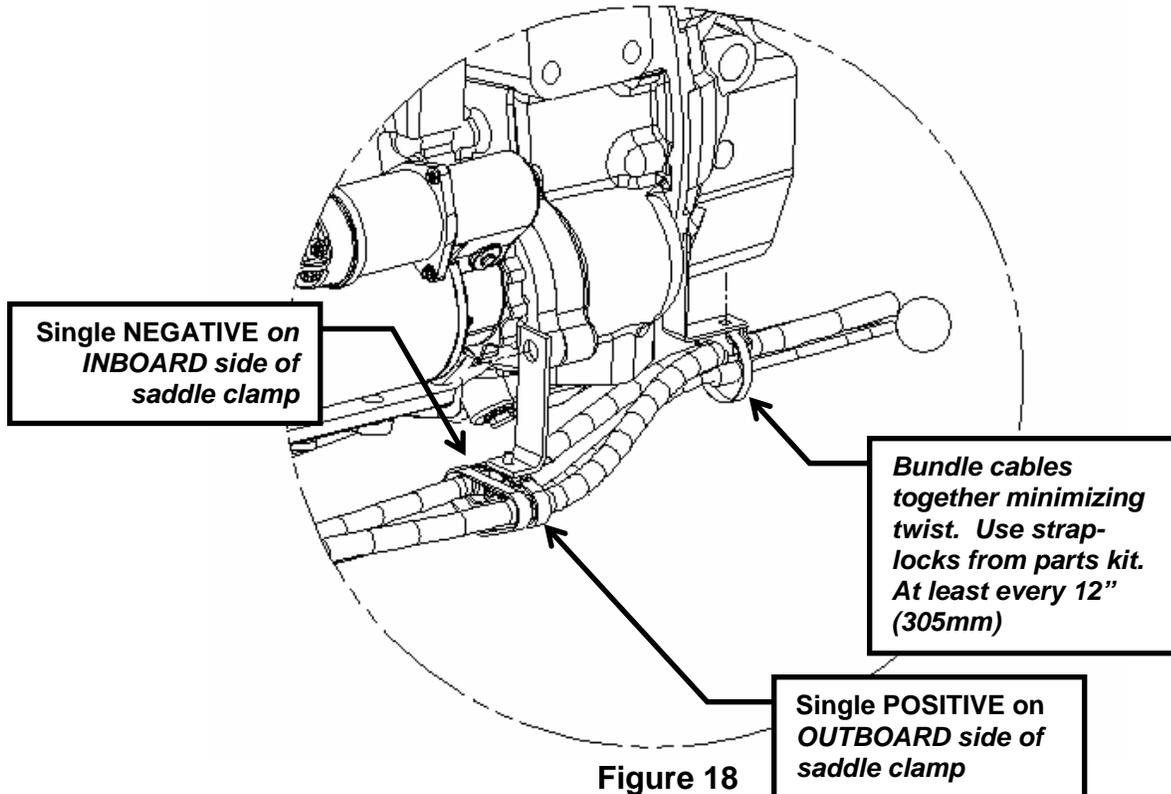
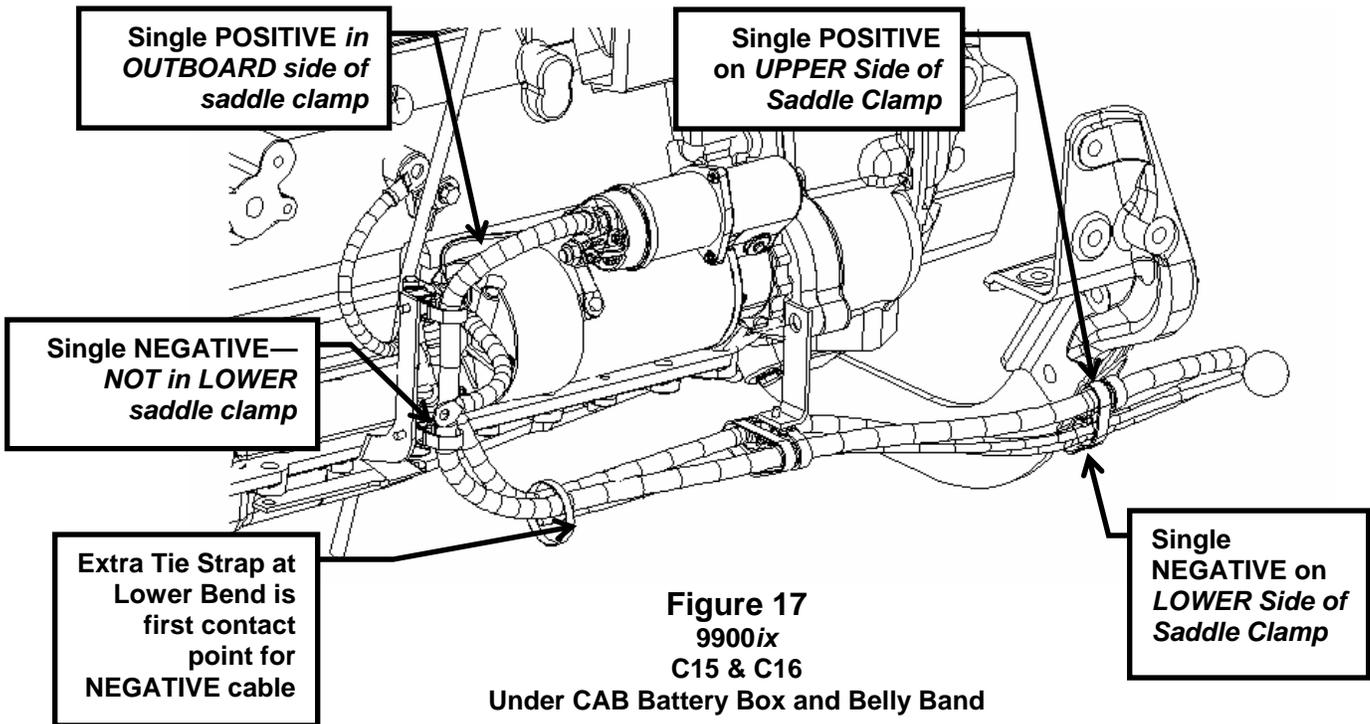
**Figure 14**  
 9900ix  
 C10, C11, C12 & C13  
 Under CAB Battery Box, NO Belly Band  
 Forward Portion of Routing Same as Figure 13

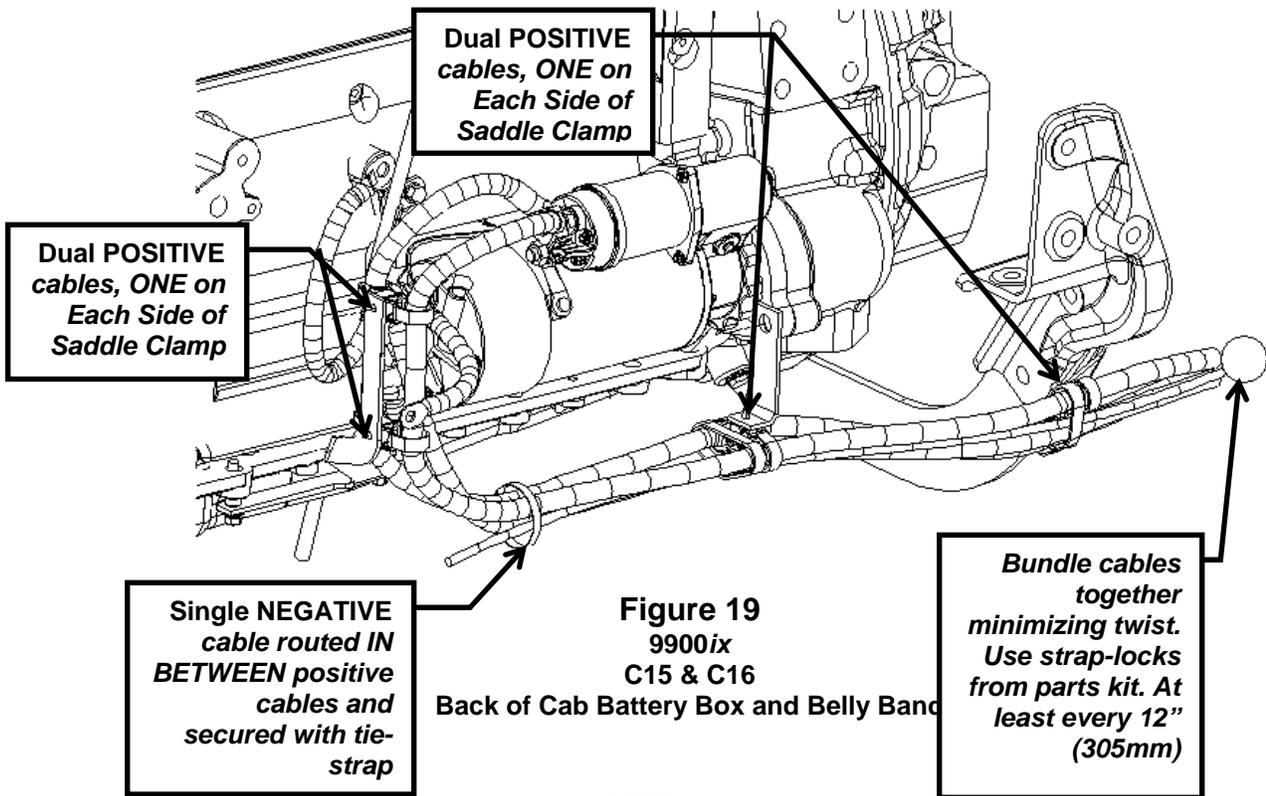


**Figure 15**  
**9900ix**  
**C10, C11, C12 & C13**  
**Back of Cab Battery Box NO Belly Band**



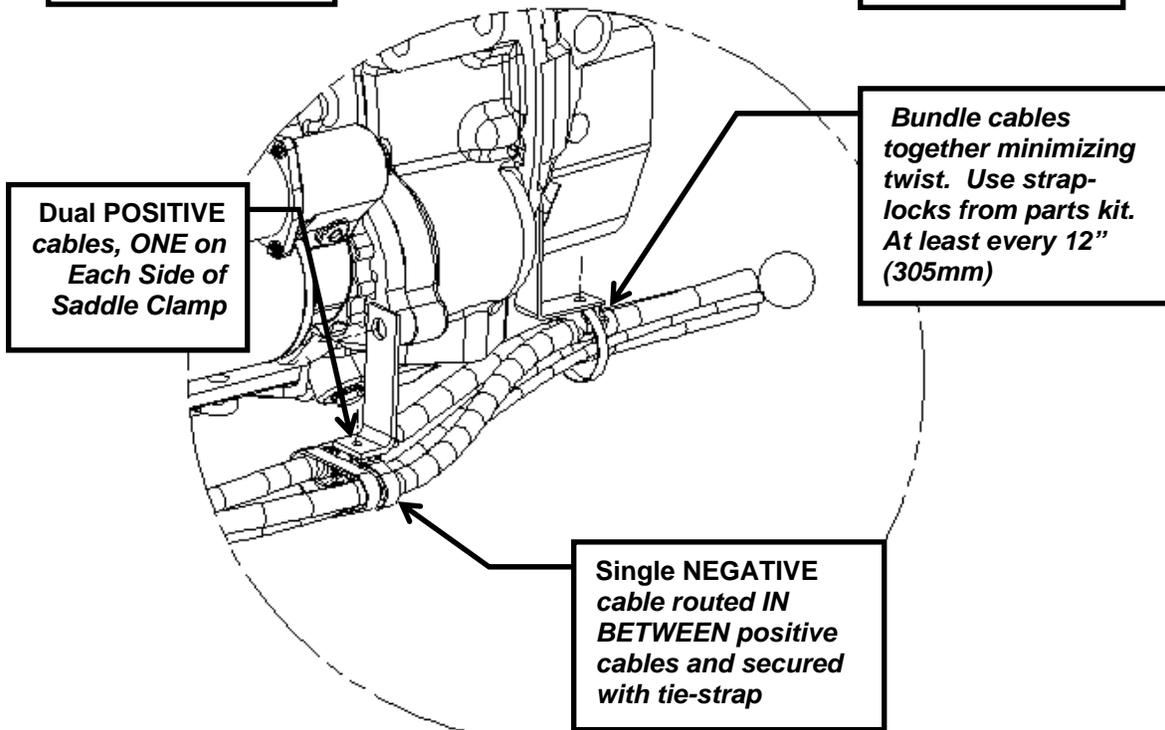
**Figure 16**  
**9900ix**  
**C10, C11, C12 & C13**  
**Back of Cab Battery Box, with Belly Band**  
**Forward Portion of Routing Same as Figure 15**





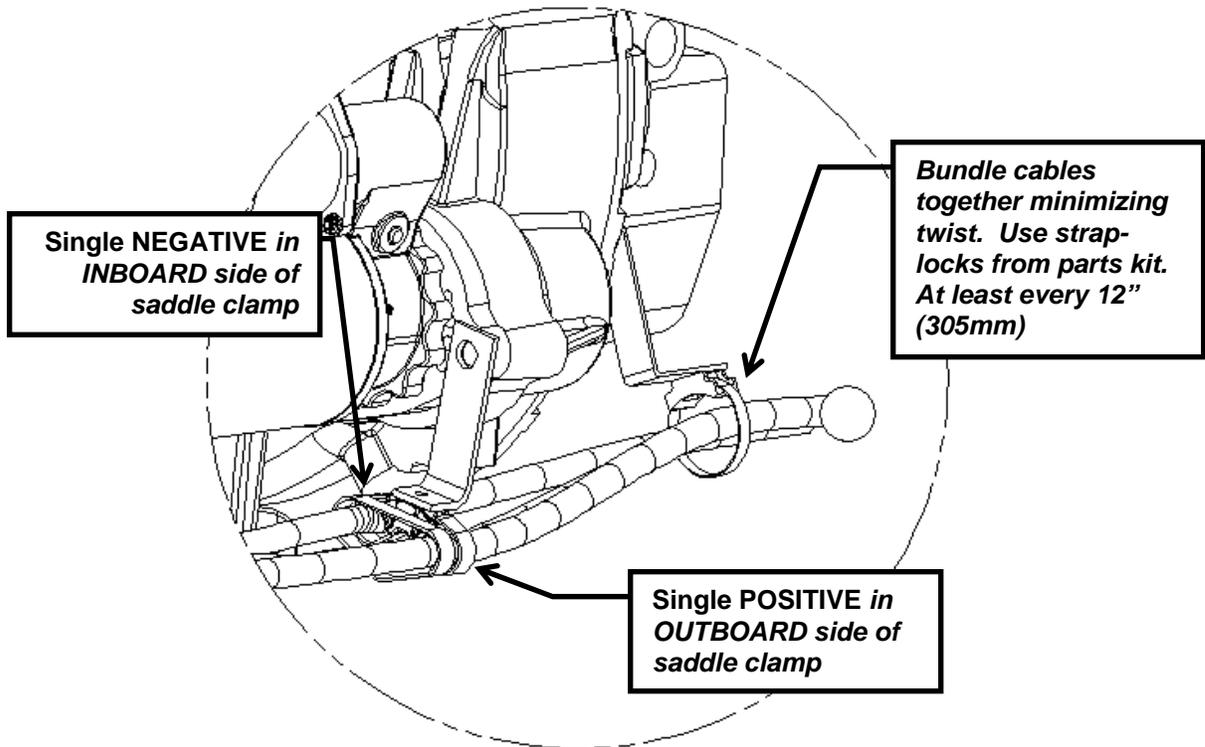
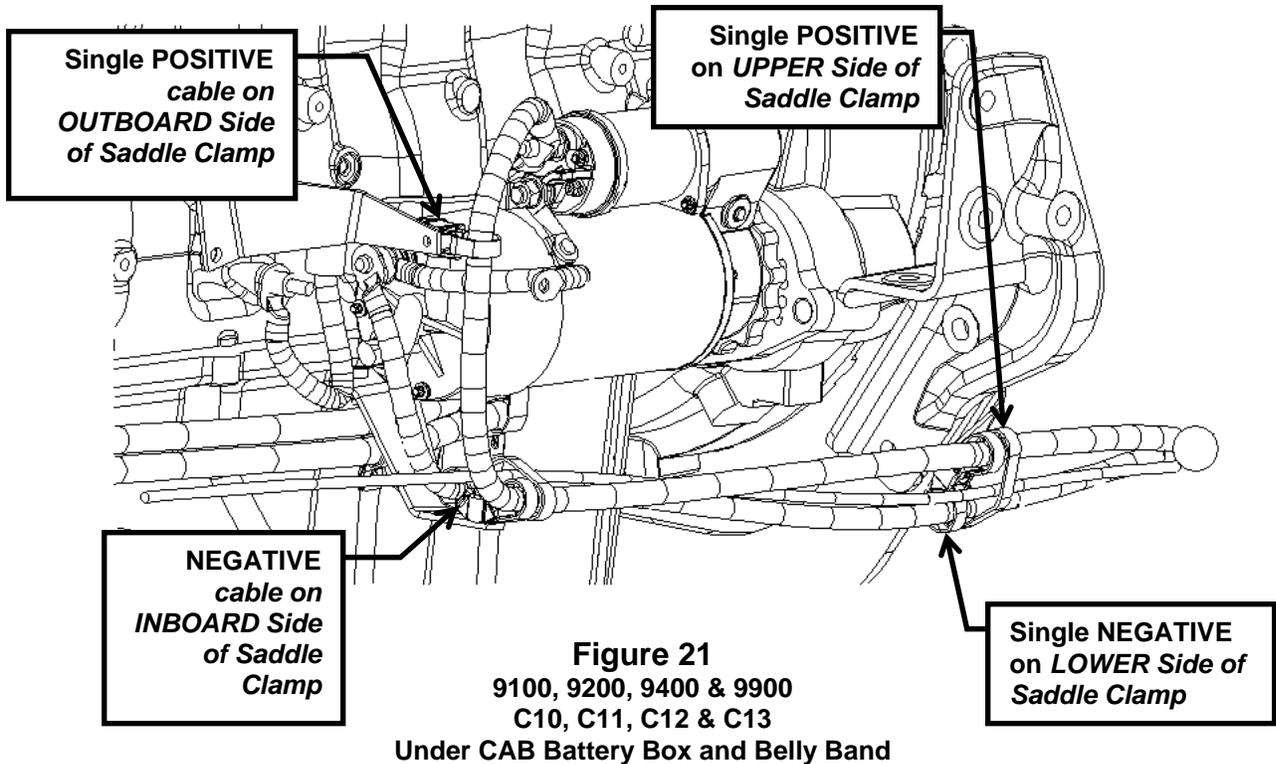
**Figure 19**  
9900ix  
C15 & C16

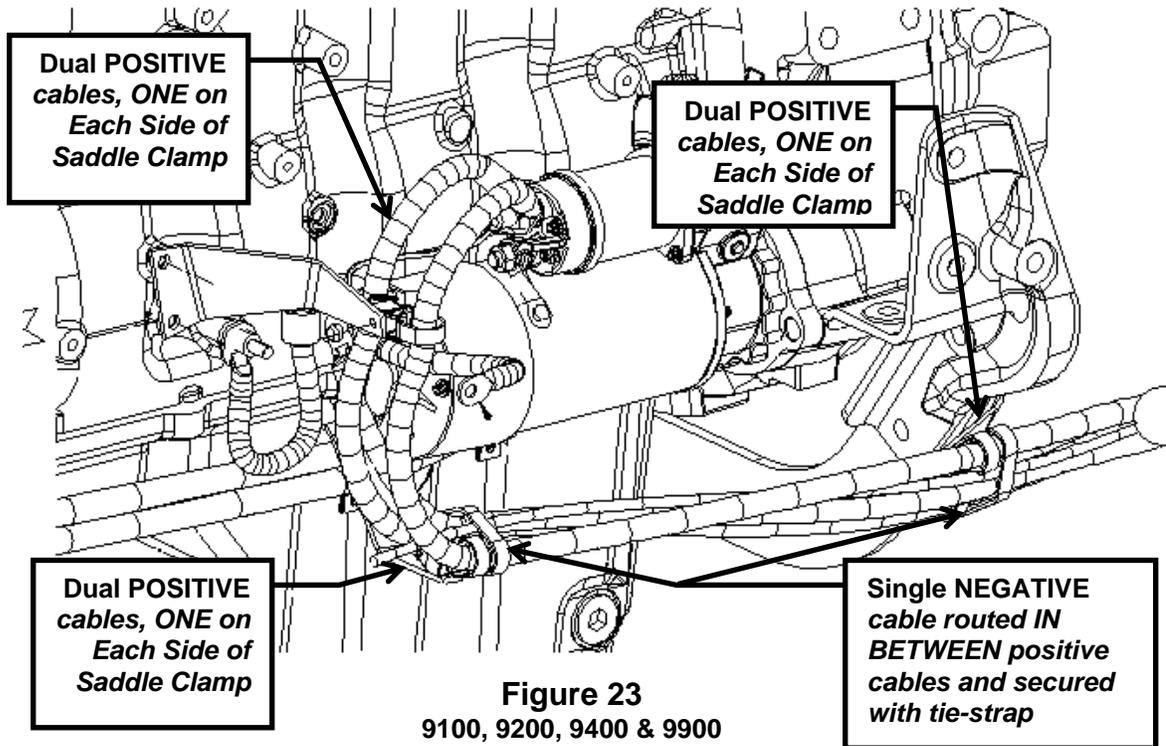
Back of Cab Battery Box and Belly Band



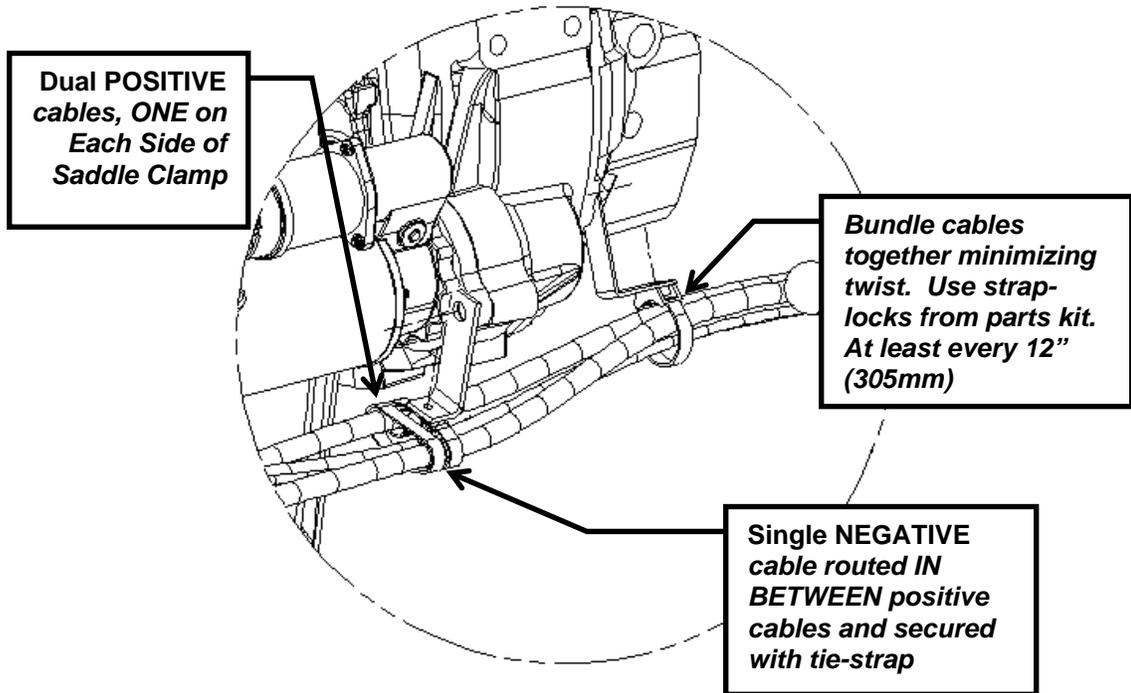
**Figure 20**  
9900ix  
C15 & C16

Back of Cab Battery Box NO Belly Band  
Forward Portion of Routing Same as Figure 19

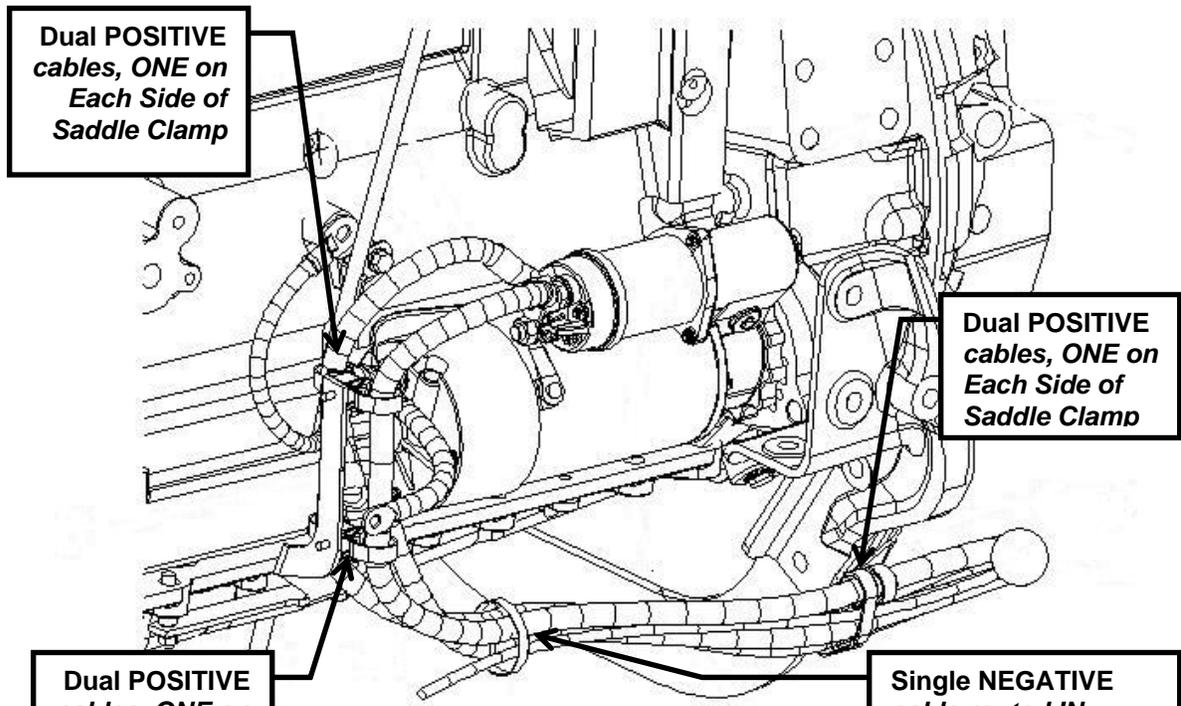




**Figure 23**  
 9100, 9200, 9400 & 9900  
 C10, C11, C12 & C13  
 With Back of Cab Battery Box and Belly Band



**Figure 24**  
 9100, 9200, 9400 & 9900  
 C10, C11, C12 & C13  
 Back of Cab Battery Box NO Belly Band  
 Forward Portion of Routing Same as Figure 23

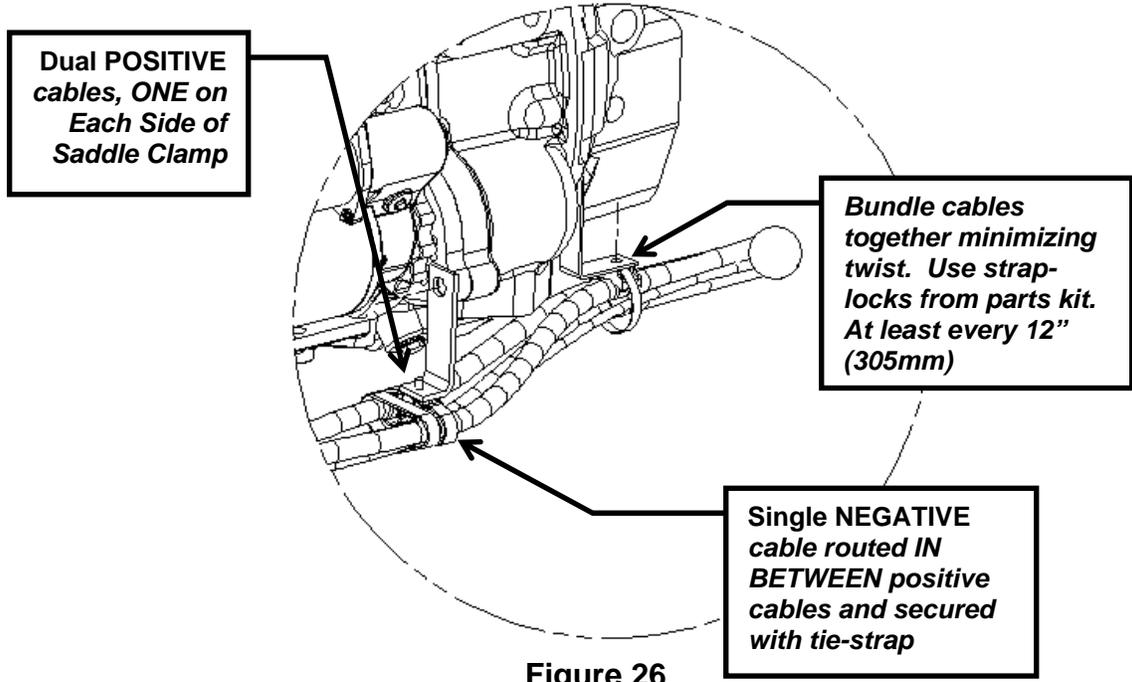


Dual POSITIVE cables, ONE on Each Side of Saddle Clamp

Dual POSITIVE cables, ONE on Each Side of Saddle Clamp

Single NEGATIVE cable routed IN BETWEEN positive cables and secured with tie-strap

**Figure 25**  
 9100, 9200, 9400 & 9900  
 C15 & C16  
 Back Of Cab Battery Box and Belly Band

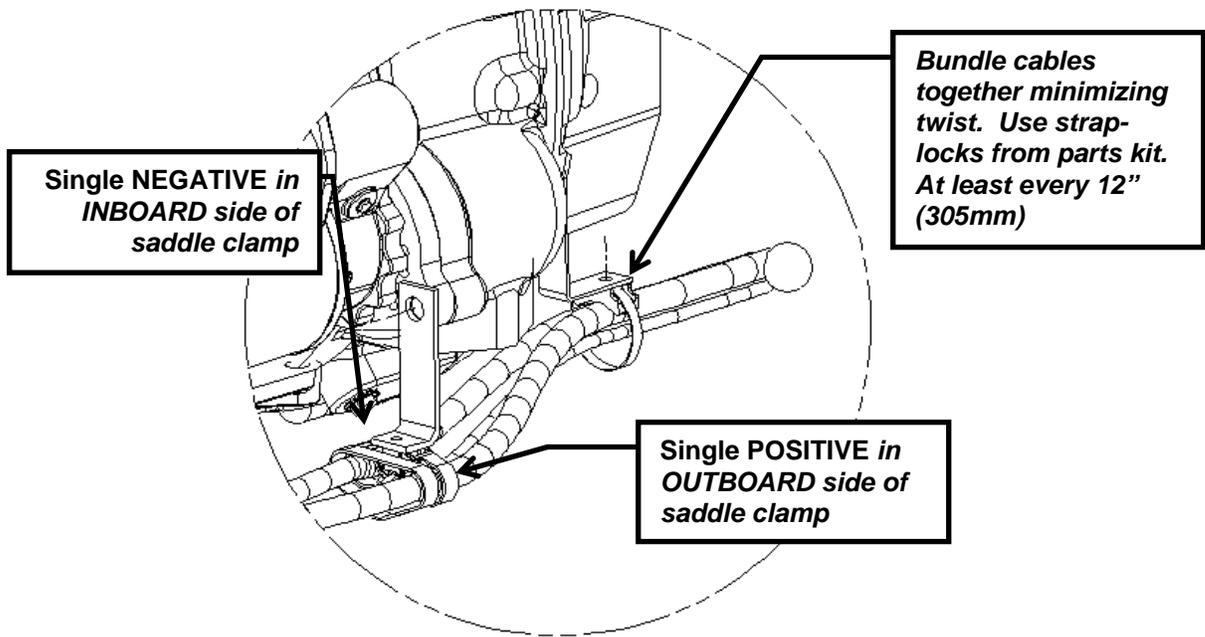
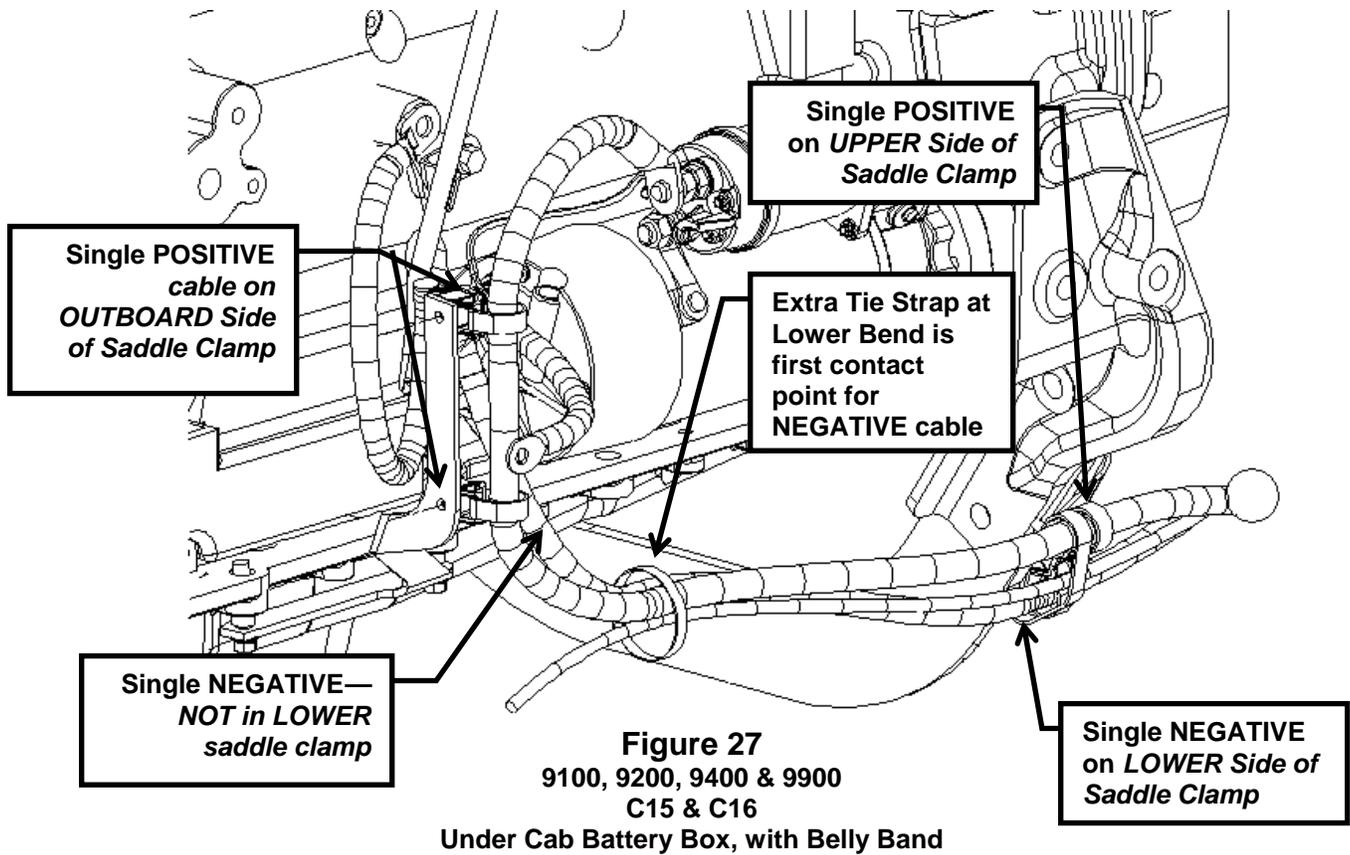


Dual POSITIVE cables, ONE on Each Side of Saddle Clamp

Bundle cables together minimizing twist. Use strap-locks from parts kit. At least every 12" (305mm)

Single NEGATIVE cable routed IN BETWEEN positive cables and secured with tie-strap

**Figure 26**  
 9100, 9200, 9400 & 9900  
 C15 & C16  
 Back Of Cab Battery Box, NO Belly Band  
 Forward Portion of Routing Same as Figure 25



22. Once the forward portion of the battery cables is properly routed and secured, use remaining existing clipping points and L-brackets to continue the battery cable routing to the batteries.
23. Ensure the following when completing the routing:
- Secure cable bundle together with a tie-strap at least every 12 inches.
  - Use tie-straps from kit to mount cable bundle to existing clipping.
  - Minimize the twisting of the cable bundle.
  - Route cable bundle with care so as to avoid rubbing on sharp edges.
  - Other cables may be routed with bundle. Ensure they do not become twisted or pinched.
  - **CLEAN POWER** cables should be bundled separately, however the Clean Power bundle can be routed with the battery cables.
24. When cables exit bundle and enter battery box, ensure the following:
- Positive and negative cables do not touch each other if they cross.
  - Additional cables may be routed with battery cable bundle. Ensure they are not pinched or crossed when routing to battery box.
  - Battery cables do not rub or chafe on any sharp edges in the battery box.
25. Re-connect positive and negative battery cables.

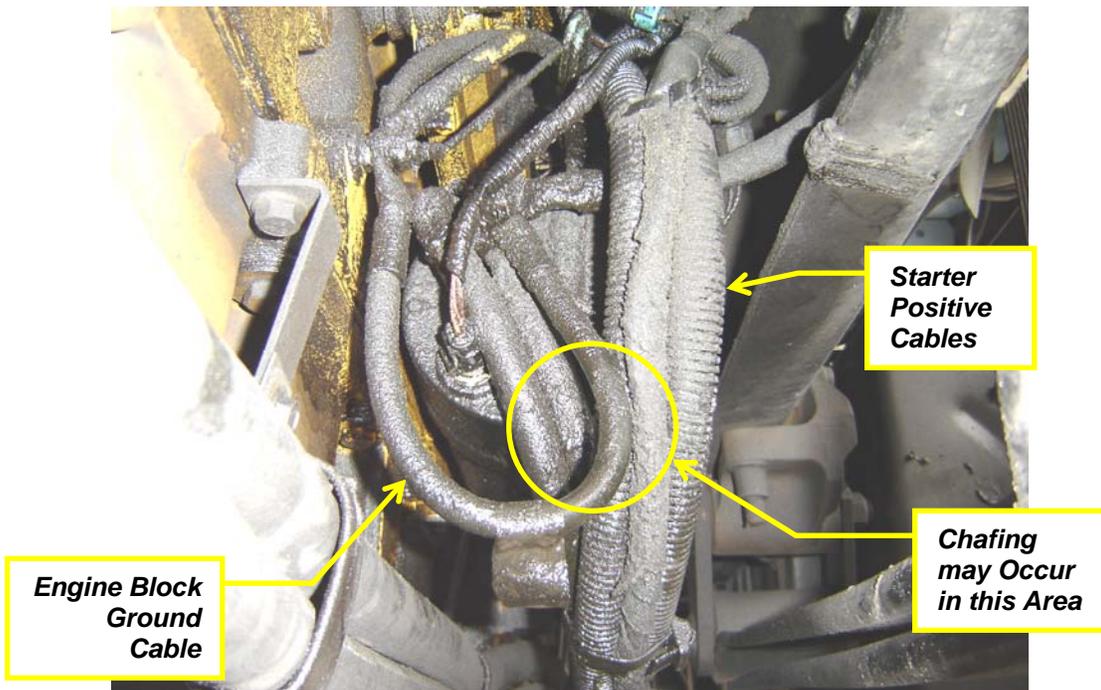
## Engine Ground Inspection

- After performing the above service procedure, please inspect the routing of the ENGINE BLOCK ground cable.



### **IMPORTANT:**

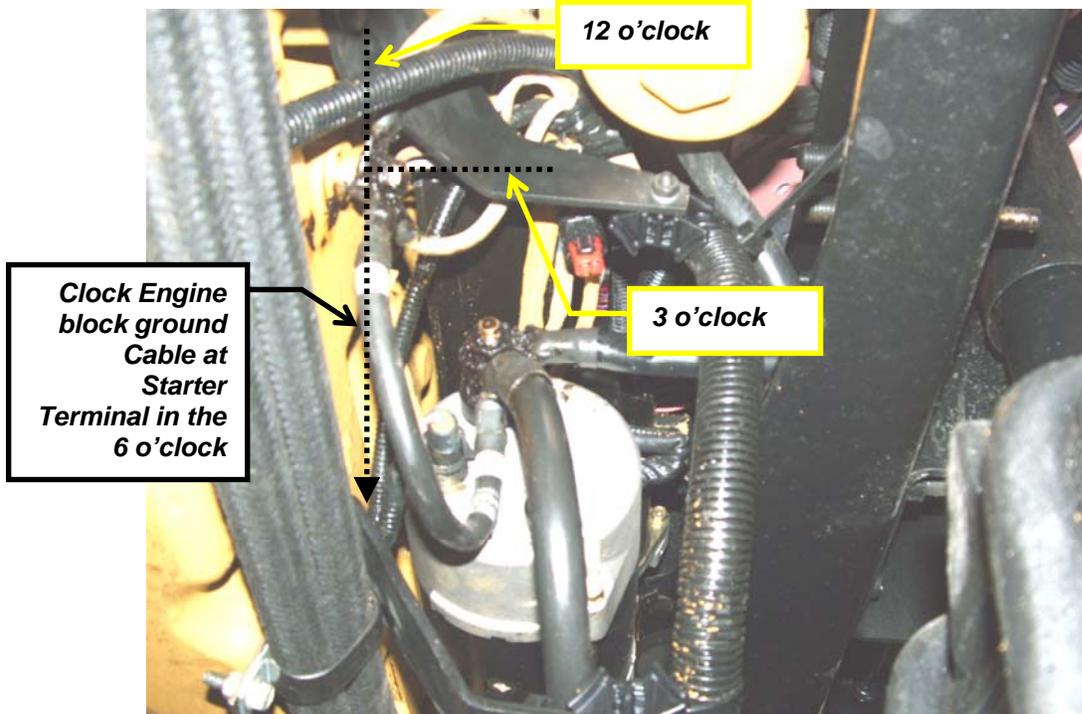
**TO PREVENT CHAFING OF THE POSITIVE CABLES AGAINST THE ENGINE BLOCK GROUND CABLE (SEE FIGURE 29), PLEASE ENSURE ENGINE BLOCK GROUND CABLE IS CLOCKED IN THE DOWNWARD (6 O'CLOCK) POSITION, SEE FIGURE 30.**



**Figure 29 --  
Chafing may occur between Engine Block Ground and Newly Located Positive cables.**

**NOTE:** *If NO contact or chafing is present between CAT ENGINE GROUND cable and battery cables, NO re-clocking is necessary.*

- ***If contact or chafing of the ENGINE GROUND cable against the Battery Cables is present, rotate and tighten the ground cable on the starter terminal so it is straight down (6 o'clock position) and not contacting the starter positive cables, see figure 30.***



**Figure 30 – Correct engine block ground cable routing.**

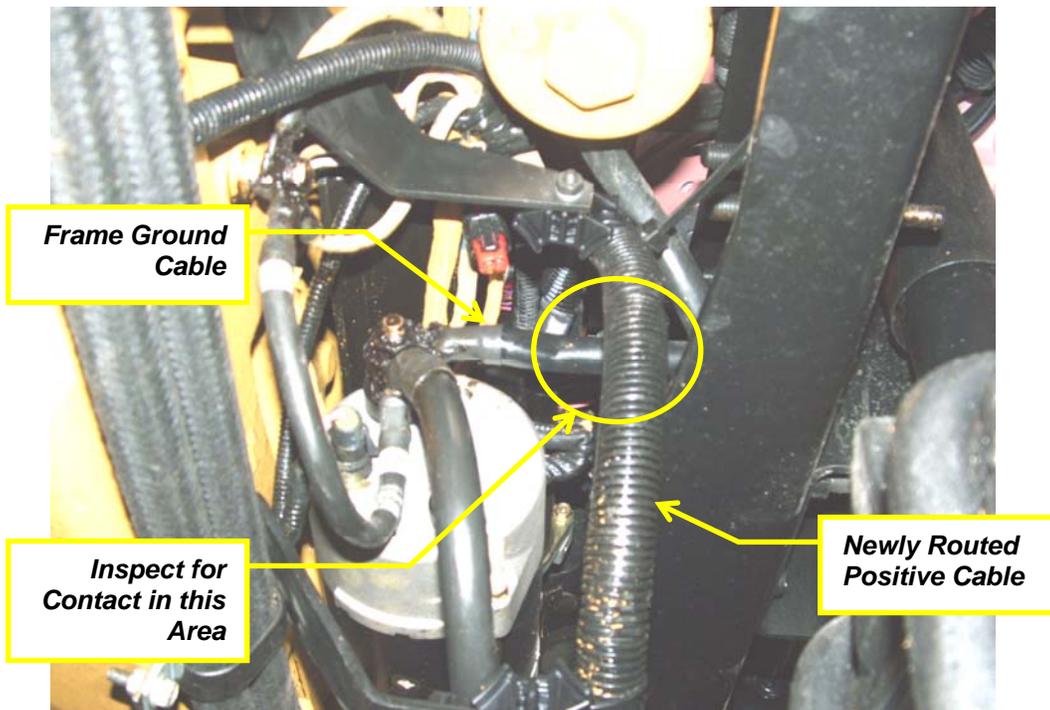
## Frame Ground Inspection

- After performing the above service procedure, please inspect the routing of the FRAME ground cable.



### **IMPORTANT:**

**TO PREVENT CHAFING OF THE POSITIVE CABLES AGAINST THE FRAME GROUND CABLE (SEE FIGURE 31), PLEASE ENSURE FRAME GROUND CABLE IS NOT IN CONTACT WITH THE NEWLY ROUTED POSITIVE CABLES, SEE FIGURE 32.**



**Figure 31 – FRAME Ground Inspection**

- Ensure cables are not in contact.

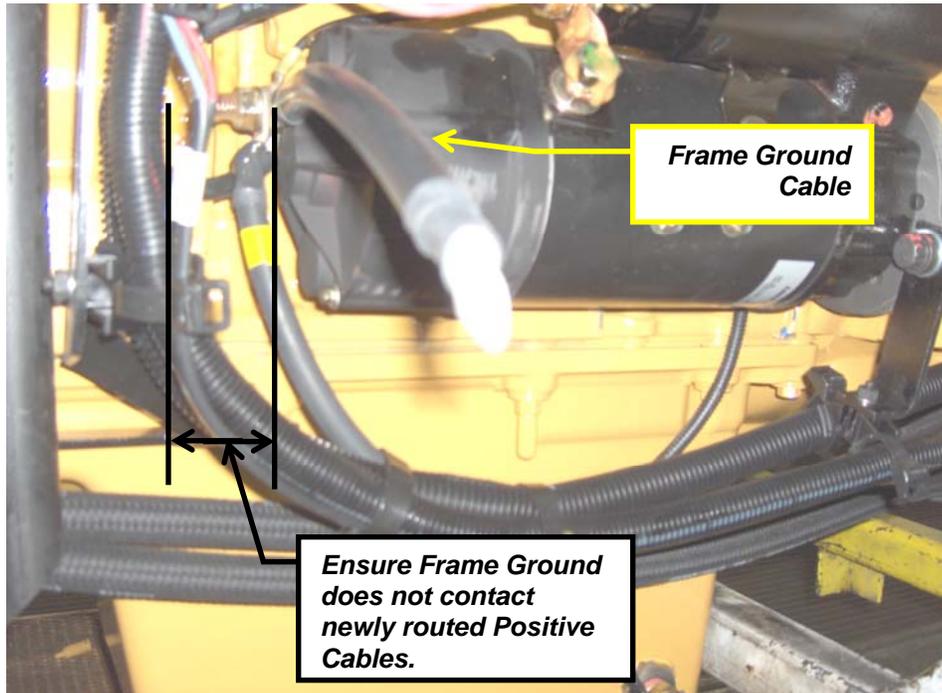


Figure 32 – Frame Rail Removed for Clarity

## END OF SERVICE PROCEDURE

## LABOR INFORMATION

<u>Operation No.</u>	<u>Description</u>	<u>Time</u>
A40-07501-1	<i>Install Brackets</i>	0.8 hr
A40-07501-2	<i>ADD ON, for Belly Band Bracket Install</i>	0.1 hr
A40-07501-3	<i>ADD ON, for Battery Cable replacement, per Cable</i>	0.5 hr

- All vehicles require the Labor Op -1. Add on other labor operation as necessary.

## CAMPAIGN IDENTIFICATION LABEL

*Each vehicle corrected in accordance with this campaign **must be** marked with a CTS-1075 Campaign Identification Label.*

Complete the label and attach on a clean surface next to the vehicle identification number (VIN) plate.



## ADMINISTRATIVE/DEALER RESPONSIBILITIES (U.S. & POSSESSIONS)

Proceed immediately to make necessary correction to units in inventory. **All inventory vehicles subject to this recall campaign must be corrected prior to sale, transfer or delivery.** If vehicles have been sold or transferred and you are in receipt of Customer Notification Letters and Authorization for Recall Service cards for those vehicles, the transfer location or customer must be notified **IMMEDIATELY** from your dealer location.

Dealers must correct all vehicles subject to this campaign at no charge to the owner, regardless of mileage, age of vehicle, or ownership, from this time forward.

The National Traffic and Motor Vehicle Safety Act, as amended, provides that each vehicle that is subject to a vehicle recall campaign must be adequately **repaired** within a reasonable time after the owner has tendered it for repair. A failure to adequately repair within **60 days** after a tender of a vehicle is prima facie evidence of failure to repair within a reasonable time. If the condition is not adequately repaired within 60 days, the owner may be entitled to **replacement**

with an identical or reasonable equivalent vehicle at no charge, or to a **refund** of the purchase price less a reasonable allowance for depreciation.

However, consistent with the customer notification, dealers are expected to complete the repairs on the mutually agreed upon service date.

To avoid having to replace an owner vehicle or refund the purchase price, every effort must be made to promptly schedule an appointment with each owner to repair his or her vehicle as soon as possible.

During the recall process, a listing of owner names and addresses will be furnished to the involved dealers to enable dealers to follow up with owners and have the vehicles corrected. You must limit the use of this listing to this campaign because the list may contain information obtained from state motor vehicle registration records and the use of such motor vehicle registration data for purposes other than this campaign is a violation of law in several states.

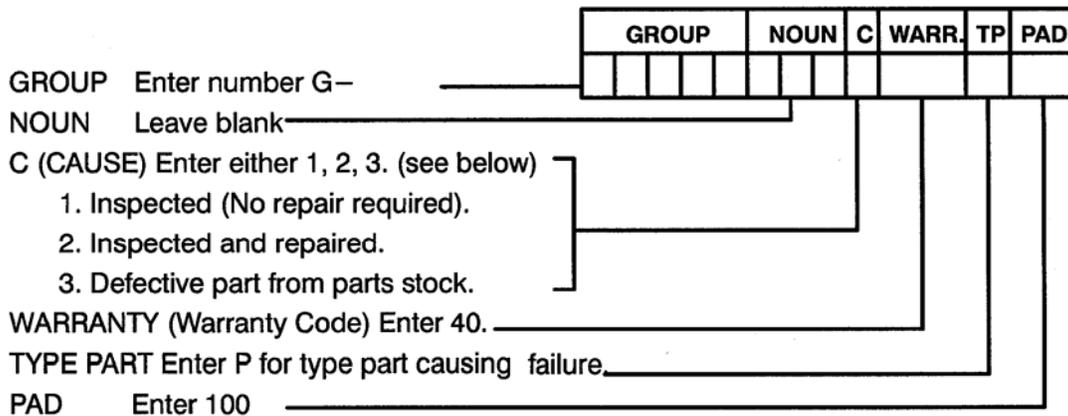
**POSSIBLE CUSTOMER REIMBURSEMENT**

There may be an occasion when a customer was charged for repairs related to this Recall prior to the Recall being released. The customer letter contains a statement for the customer to contact the Dealer if they believe they are entitled to reimbursement costs. The Dealer should follow the Customer Reimbursement guidelines in Warranty Policy Letter 03-001G. The Warranty Procedures and Administrative Policies manual (CTS1100) is in the process of being updated to include the information in Policy Letter 03-001G.

**WARRANTY CLAIMS**

Refer to Dealer Warranty Manual for procedures to conduct Recall Campaigns.

It is important that the Recall Coding be completed properly to assist in processing the warranty claim. Complete instructions will be found in the Warranty Manual, Section 7-1. Special attention should be given to Items 39 through 44:



## **ADMINISTRATIVE/DISTRIBUTOR RESPONSIBILITY (EXPORT)**

Proceed immediately to make necessary correction to units in inventory. All inventory vehicles subject to this recall campaign must be corrected prior to sale, transfer or delivery. If vehicles have been sold or transferred and you are in receipt of Customer Notification Letters and Authorization for Recall Service cards for those vehicles, the transfer location or customer must be notified from your distributor location.

Export locations are to submit warranty claims in the usual manner making reference to this recall number.

We ask for your full cooperation and follow-up to this important subject matter. If you have any questions or need further assistance, please contact the Regional Service Manager at your regional office.

## **INTERNATIONAL TRUCK AND ENGINE CORPORATION**