



Spartan Fire, LLC

Technical Service Bulletin TSB23-120-001

DATE: 1/6/2023

APPLIES TO: This service bulletin applies to 2013 through 2023 model year, Gladiator, Metro Star, Metro Star X, Metro Star-RT, and Spartan Force emergency response chassis cabs built between August 8, 2012 and November 18, 2022.

CONDITION: Seat Belts may fray at outer edges when drawn across abrasive fabric/Velcro/hook and loop clothing fasteners.

CORRECTION: Install more abrasive resistance seat belt assembly.

LABOR ALLOCATION: 1 hr/seat

CLASSIFICATION: T3

PARTS NEEDED: Contact customer service with VIN, seat location and seat serial number from seat bottom, if available, for correct part number identification.

<u>Part Number</u>	<u>Description</u>
8905-1015GY	Bostrom PN A71-1603GY (11.5")
8905-1005GY	Bostrom PN A71-1600GY (14")
4528-RR6-001	Replacement for part number 3261-RR6-001
4529-RR6-001	Replacement for part number 3914-RR6-001

GENERAL INSTRUCTIONS:

Thoroughly review entire service bulletin before starting work. If there are questions or concerns with steps defined in this service bulletin, contact Spartan Fire, LLC. Customer & Product Support Group.

All applicable industry safety standards must be followed when performing work identified in this procedure.

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STEP-BY-STEP INSTRUCTIONS: For 300/400 Series ABTS Seat Belt Replacement



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CUSTOMER INSTRUCTIONS FOR 300/400 SERIES ABTS SEAT BELT REPLACEMENT



GENERAL PRODUCT INFORMATION

H.O. Bostrom has created a solution for replacing the an ABTS seat belt.

DOCUMENT PURPOSE

The purpose of this document is to illustrate how to remove and replace an ABTS seat belt on a seat frame. It is important that the installer read and understand all safety information and instructions before starting the installation procedure.

SAFETY INFORMATION

- ⚠ DANGER** indicates a hazardous situation which, if not avoided, WILL result in death or serious injury.
- ⚠ WARNING** indicates a hazardous situation which, if not avoided, COULD result in a death or serious injury.
- ⚠ CAUTION** indicates a hazardous situation which, if not avoided, COULD result in minor or moderate injury.

NOTICE is used to address practices not related to physical injury.

SAFETY INSTRUCTIONS (or equivalent) signs indicate specific safety related instructions or procedures.

TOOLS REQUIRED

5/64" Hex Key Wrench	Torque Wrench with 5/8" Socket
5/32" Hex Key Wrenches (2)	Drill with .25" Diameter Drill Bit
5/16" Combination Wrench	Flat-Blade Screwdriver
7/16" Combination Wrench	Side-Cutting Pliers
5/8" Combination Wrench	Torque Wrench
11/16" Combination Wrench	Hog Ring Tool

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PARTS LISTS

(Reference Figure 1 and Figure 12)

Item #	Description	Qty	Item #	Description	Qty
1	Frame cover	1	13	Seat Belt Webbing	1
2	Plastic Roller	1	14	7/16-20 Hex Nut	1
3	Bolster Bar	2	15	Seat Belt Bezel	1
4	1/4-20 x 1/2" Button Head Cap Screw	4	16	Push Fastener	2
5	1/4-20 x 1" Button Head Cap Screw	2	17	1/4" Rivet	1
6	Channel Support	1	18	6-32 Screw	1
7	Seat Belt Retractor	1	19	Steel Washer	1
8	7/16" Washer	3	20	Plastic Spacer	1
9	Spacer	1	21	Nylon Locking Washer	1
10	7/16-20 x 1" Hex Head Cap Screw	3	22	Bezel Support	1
11	Seat Belt Buckle	1	23	Nylon Locking Nut	1
12	Store-All Pad	1	24	Bolster Assembly	1

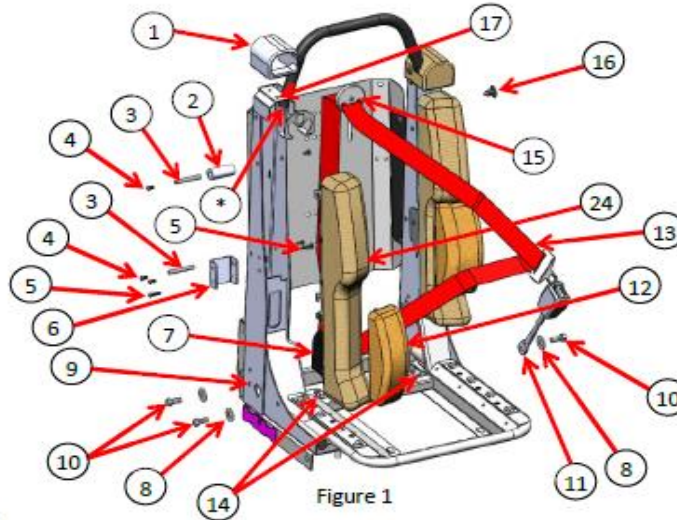


Figure 1

SERVICE PROCEDURES

BACKREST/BOLSTER REMOVAL

NOTICE: If seat belt is equipped with a sensor switch, disconnect wires before disassembly.

NON-SCBA BACKREST REMOVAL

1. Remove the 3 C-rings (Item 24) at the back of the headrest, and remove one button head cap screw (BHCS, item 4) from each side of seat. See Figure 1.
2. Cut seat belt (Item 21). Remove push fastener (Item 30) with a side cutter or small screwdriver. – OR – Place a putty knife under the cover, against the push fastener and hit with a hammer to break fastener. See Figure 2.
3. From rear of the seat, lift the seat backrest up and push it out (toward the front of the seat) to remove back cushion. (Figure 3)



Figure 1

Figure 2

Figure 3

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SCBA BOLSTER REMOVAL

(Only remove bolster from retractor side of the seat)

1. Remove BHCS (Item 4) with a 5/32" hex key wrench from inside and outside bolster. See Figure 4.
2. Lift up and pull out Store-All pad (Item 12) if installed and then lift up and pull out bolster (Item 24). See Figure 5 and Figure 6.
3. Remove upper frame cover (Item 1) by removing push fastener (Item 30) with a side cutter or small screwdriver. – OR – Place a putty knife under the cover, against the push fastener and hit with a hammer to break fastener.



Figure 4



Figure 5



Figure 6

SEAT BELT REMOVAL

1. Remove bolster bar (Item 3). Use both 5/32" hex key wrenches on both BHCS (Item 4). Remove plastic roller (Item 2) by removing bolster bar (Item 3) and BHCS (Item 4). See Figure 7.
2. Remove channel support (Item 6) by removing BHCS (Item 5) and nylon jam nut .25-20 with a 5/32" hex key wrench and a 7/16" combination wrench. See Figure 8.
3. If present, pull retractor cover from lower mounting location and rotate out of the way.
4. Cut seat belt (Item 13) and remove mounting hardware (Items 8-10). Discard belt and mounting hardware.
5. Drill out rivet that attaches bezel support (Item 22) to the top of the frame assembly with .25" drill. See Figure 9.
6. Remove buckle (Item 11) by removing hex head cap screw (HHCS) (Item 10), nut (Item 14), and washer (Item 8).



Figure 7



Figure 8



Figure 9

INSTALLATION OF NEW BELT AND HARDWARE

⚠ WARNING: When installing a seat belt with an internal pyrotechnic device, use caution so seat belt is not dropped. Doing so may cause the device to detonate.

⚠ WARNING: The installer is liable for seat belt installation. Failure to tighten components could result in seat belt coming loose unexpectedly.

1. Remove and discard plastic retainers. See Figure 10.



Figure 10

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2. Slide anchorage plate, tongue, bezel (Item 15) up through the bottom of the bolster channel.
3. Replace plastic roller (Item 2) by inserting bolster bar (Item 3) through the roller and frame and tightening both BHCS (Item 4) with 5/32" hex key wrenches. The belt must be above the roller and in the correct orientation when assembly is complete. See Figure 11.



Figure 11

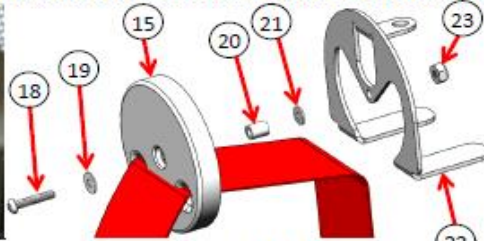


Figure 12



Figure 13

4. Replace bolster bar by reversing procedure in step 1 of removal instructions.
5. Replace channel support (Item 9) by reversing procedure in step 2 of removal instructions.
6. Attach bezel support (Item 22) to bezel (Item 15) by placing a steel washer (Item 19) onto #6-32 screw (Item 18) and then sliding a plastic spacer (Item 20) onto the screw. Place screw through the front of the bezel (Item 15) and add the nylon locking washer (Item 21) to lock the bezel in place on the screw. Place the bezel support (Item 22) onto the screw and tighten with nylon locking nut (Item 23). Use the 5/64" hex key wrench and the 5/16" combination wrench to tighten. Bezel should be able to swivel clockwise and counterclockwise. See Figure 12.
7. Fasten bezel assembly from step 5 to upper frame with 1/4" Rivet (Item 17). Rivet head should be on top of the seat frame.
8. Remove cardboard sleeve and attach retractor to inside of lower bolster channel with HHCS (Item 10) washer (Item 8), and spacer (Item 9) included in the service kit, making sure that the retractor pin aligns with slot in gusset. Torque bolt to 78 ft-lbs. See Figure 13. The bolt for the buckle should also be placed through the large hole of plastic sleeve (the small hole should line up with retractor pin) and the plastic guide should be angled as far toward the front of the seat as possible. If applicable, flip seat belt webbing as it passes through the bezel and through the seat belt tongue. See Figure 15.
9. Slide anchorage plate through upper frame cover (Item 1) and attach cover to frame with new push fastener (Item 30). See Figure 14.



Figure 14



Figure 15

10. Bolt lap end of seat belt to frame using HHCS (Item 10), nut (Item 8) and washer (Item 14).
11. Reinstall retractor cover insert and rotate retractor cover into place and slide behind lower tube.
12. Replace buckle at a 36-degree angle from horizontal.

REPLACEMENT—BACKREST/BOLSTER

NON-SCBA BACKREST REPLACEMENT

1. Place warning label on the right rear side of the seat pan. The label should be clearly visible.
2. Place caution label on the left rear side of the seat pan. The label should be clearly visible.
3. Slide on backrest and replace both BHCS screws (Item 4).
4. Attach seat cover to frame with new push fastener (Item 30). Push tabs in around bezel.
5. Replace the three (3) hog rings to the back of the headrest.
6. If a seat belt with a switch was installed, reestablish connection.

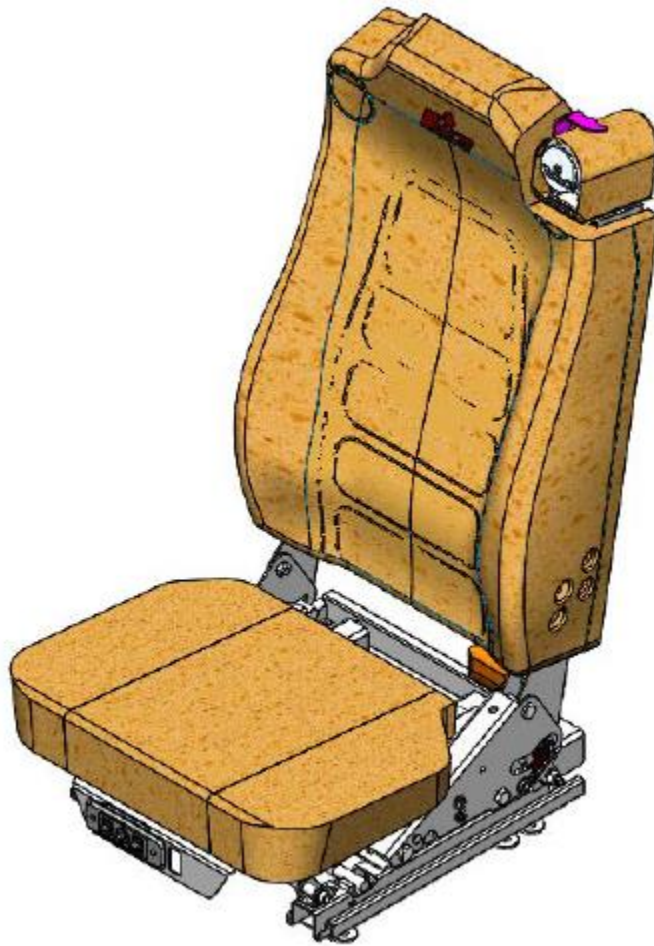
SCBA BOLSTER REPLACEMENT

1. Hook on bolster (Item 24) and Store-All pad (Item 14) and replace BHCS (Item 4).
2. Place warning label on the right rear side of the seat pan. The label should be clearly visible.
3. Place caution label vertically on the inside of the right-hand bolster channel.
4. If a seat belt with a switch was installed, reestablish connection.

NOTE: Retractor must be installed vertically (90 degree) position for webbing to be extended

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STEP-BY-STEP INSTRUCTIONS: For Rite Hite Seat Belt Replacement



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GENERAL PRODUCT INFORMATION

Seat belts are the primary safety device available in all over-the-road vehicles, including commercial vehicles and vocational trucks. Seat belts in commercial vehicles are exposed to more wear than belts in personal passenger cars. It is important to maintain the seat belt(s) in your vehicle to ensure the safety of its occupants.

DOCUMENT PURPOSE

The purpose of this document is to illustrate how to remove and replace a seat belt on a seat with an adjustable height seat belt mechanism.

SAFETY INFORMATION

⚠ DANGER indicates a hazardous situation which, if not avoided, WILL result in death or serious injury.

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TOOLS REQUIRED

5/32" (4mm) hex key
5/32" (4mm) wrench

ABBREVIATIONS

ABTS – All Belts to Seat

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SERVICE PROCEDURES

SEAT BELT REMOVAL AND INSTALLATION – RITE HITE ASSEMBLY

1. Remove trim cover. Separate Velcro at bottom of cover. Roll cover up and over handle. See Figure 1.



Figure 1

2. Remove screw on lower front opposite handle. See Figure 2.

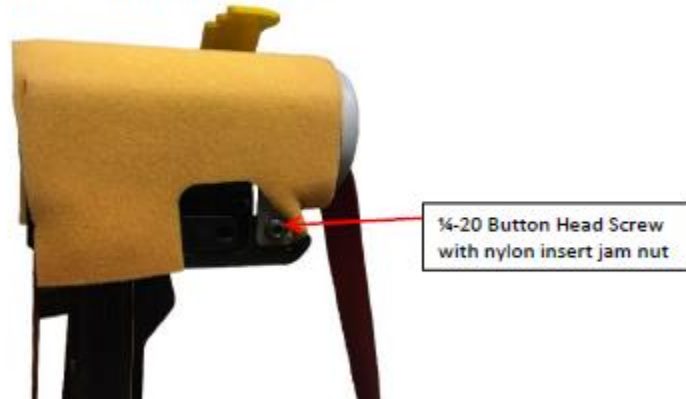


Figure 2

3. Remove screw or rivet holding bezel support in place. See Figure 3.

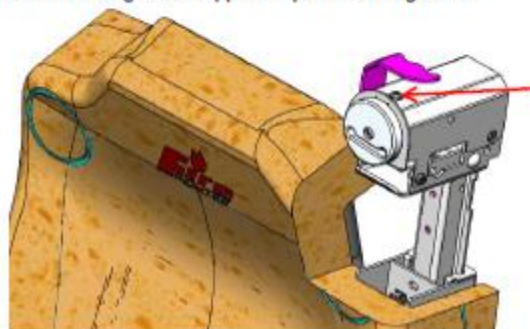


Figure 3

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4. Pull outward on metal cover to create a gap for webbing to slip through.
5. Pull webbing out of Rite-Hite assembly.
6. Remove both ends of the retractor from the seat frame. Use following instructions. See Figure 5 or Figure 6.
7. Route webbing through Rite Hite assembly. Attach new seat belt to frame using following instructions.
8. Use screw from step 3 or rivet to attach seat belt bezel to Rite Hite assembly. See Figure 3.
9. Replace screw from step 2. See Figure 2.

SEAT BELT REPLACEMENT FOR SIERRA ABTS

⚠ WARNING: Failure to properly tighten seat belt components could result in the seat belt coming loose from its mounting.

1. Remove seat belt from Rite Hite assembly.
2. Remove shoulder mounting retractor from rear of seat. See Figure 4.



Figure 4

3. If equipped with dual retractor seat belt: remove lap retractor. See Figure 5 for retractor mounted to frame. See Figure 6 for retractor mounted to suspension.



Figure 5

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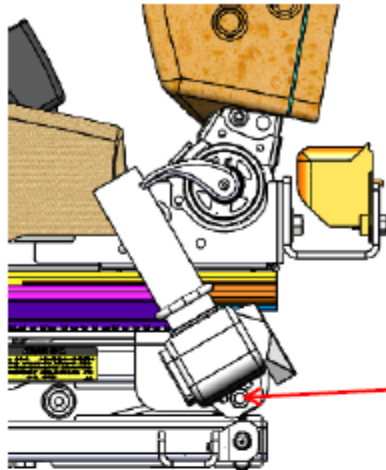


Figure 6

4. Reference steps 8-10 of seat belt removal and installation for installing seat belt.

SEAT BELT REPLACEMENT FOR ABTS RECLINE BACK AND SINGLE RETRACTOR

⚠ WARNING: Failure to properly tighten seat belt components could result in the seat belt coming loose from its mounting.

1. Reference steps 1-5 of seat belt replacement.
2. Remove shoulder retractor from rear of frame. See Figure 4.
3. Reference steps 8-10 of seat belt removal and installation for installing seat belt.

SEAT BELT REPLACEMENT FOR ABTS RECLINE BACK WITH SUSPENSION

⚠ WARNING: Failure to properly tighten seat belt components could result in the seat belt coming loose from its mounting.

1. Reference steps 1-5 of seat belt removal.
2. Remove shoulder retractor from rear of frame. See Figure 4.
3. Remove lap retractor from suspension bracket. See Figure 5.
4. Reference steps 8-10 of seat belt removal and installation for installing seat belt.

SEAT BELT REPLACEMENT FOR ABTS FIXED BACK

⚠ WARNING: Failure to properly tighten seat belt components could result in the seat belt coming loose from its mounting.

1. Reference steps 1-5 of seat belt removal.
2. Remove bolster, then remove shoulder retractor from rear of channel. See Figure 4.
3. Reference steps 8-10 of seat belt removal and installation for installing seat belt.

***** Torque lap and shoulder retractor fasteners to 40 ft. lbs. *****

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STEP-BY-STEP INSTRUCTIONS: For seat belts installed separate from seat.

- 1) Remove 3 bolts circled in Figure 11.1
- 2) Remove seat belt from cab.
- 3) Install new seat belt.
- 4) Install and torque the 3 fasteners to 70-80 ft. lbs.

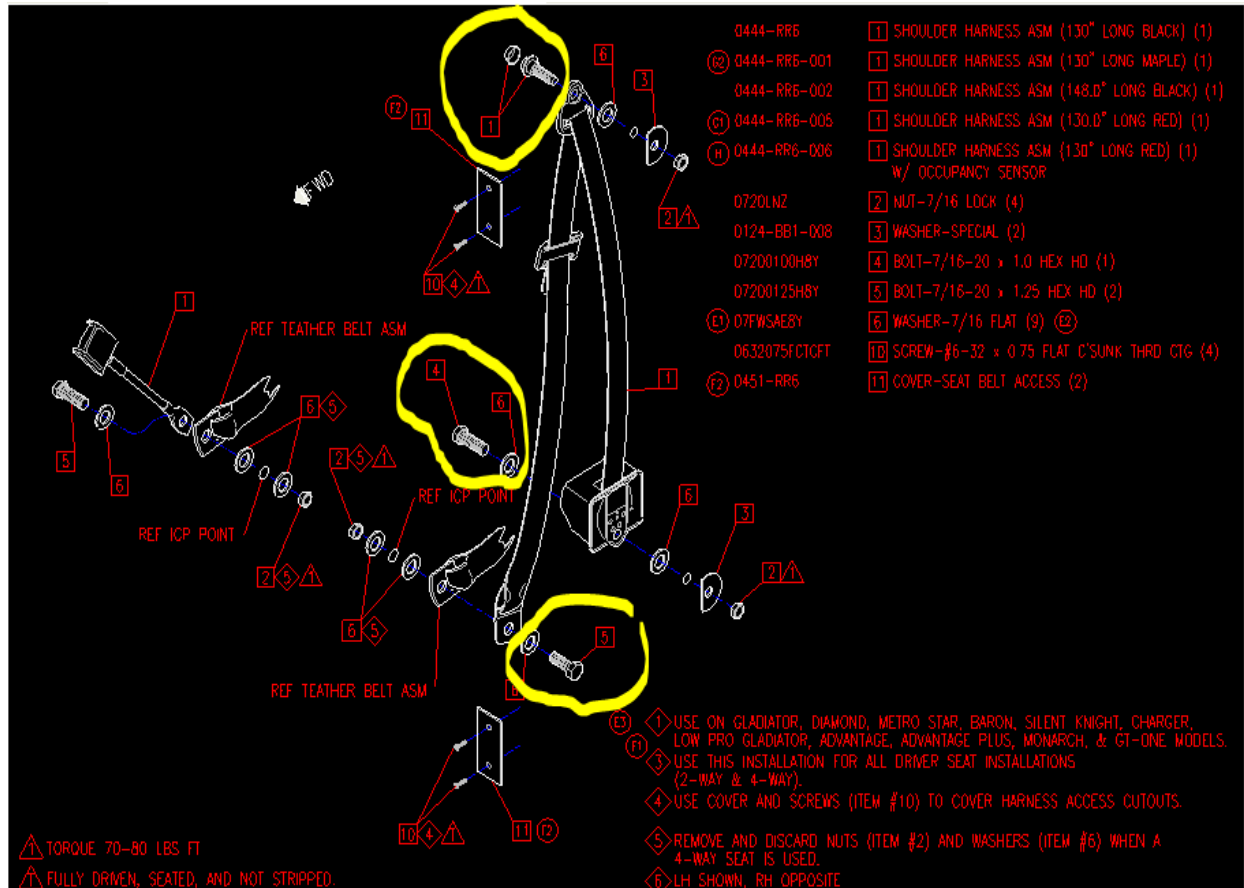


Figure 11.1

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