

Field Assembly Manual

HD325-6

HD405-6

DUMP TRUCK

SERIAL NUMBERS	HD325-6	5680 and up
	HD405-6	1055 and up

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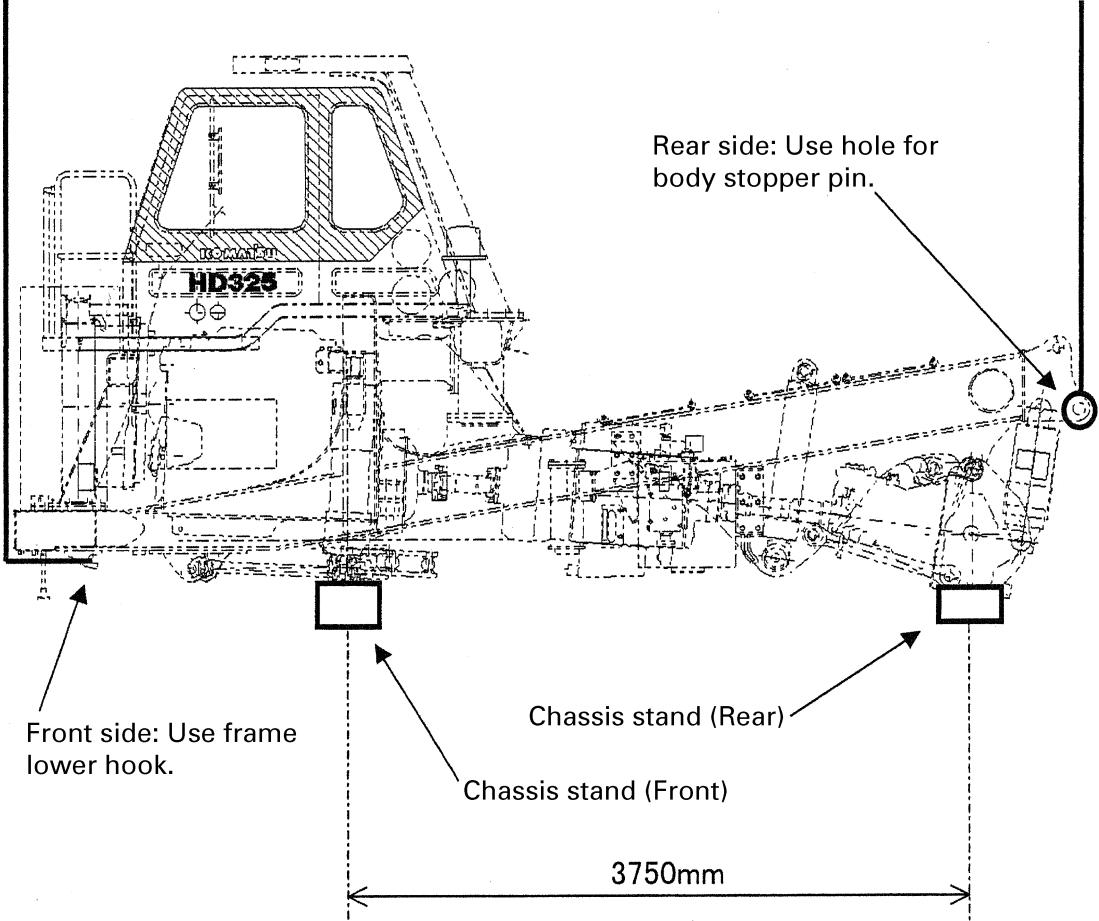
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FIELD ASSEMBLY INSPECTION REPORT	
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LIFTING UP CHASSIS ASSEMBLY

Process drawing

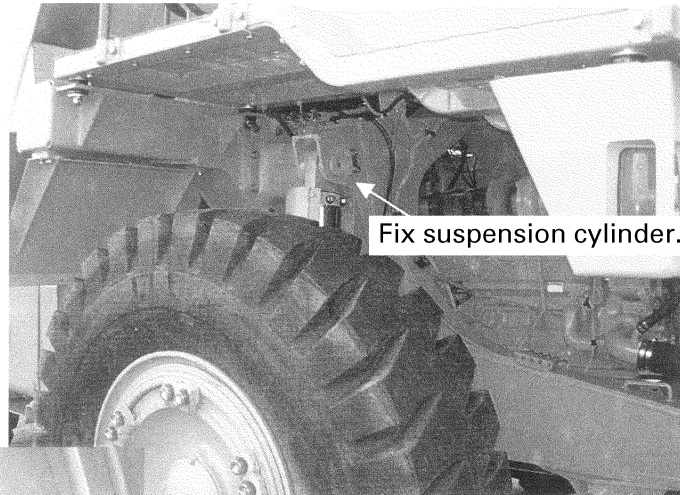
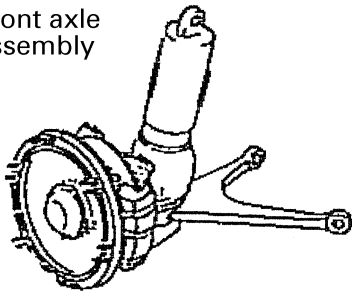


Order of work	Work procedure
<ol style="list-style-type: none"> 1. Prepare 2 cranes. 2. Install slings to the points shown in the figure and lift up the chassis assembly. 3. Remove the stands 4. Lower the chassis assembly. 	<ul style="list-style-type: none"> • Work on a level and firm place. • Weight of chassis assembly: Approx. 18 tons When using mobile cranes <ul style="list-style-type: none"> • Front side: 45 tons • Rear side: 25 tons • Protect the front bumper. • Take care that the rear side will not interfere with the grease tubes, etc. • Secure the left front suspension cylinder with wires so that it will not be extended by its weight. • Place supports higher than 800 mm under the parts to which the stands were installed. (3 layers of a block 300 mm square, etc.)

INSTALLING FRONT AXLE

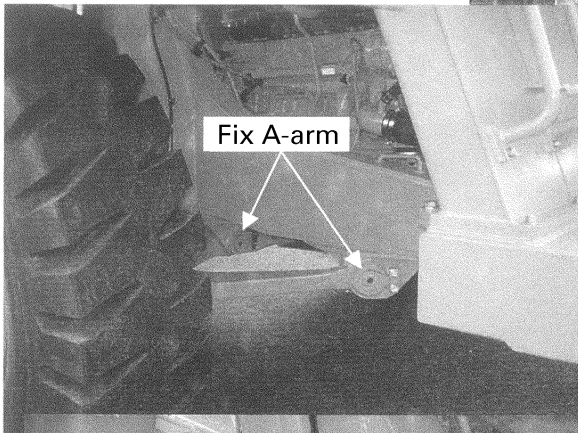
Process drawing

Front axle assembly

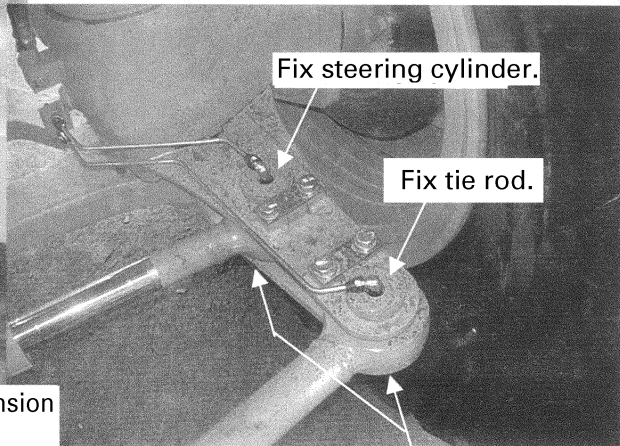


Fix suspension cylinder.

※ When working actually, remove tires.

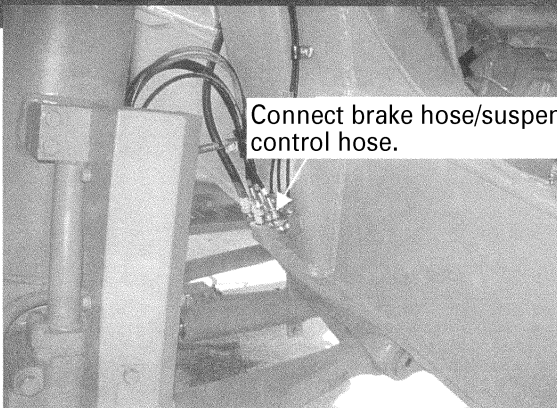


Fix A-arm



Fix steering cylinder.

Fix tie rod.



Connect brake hose/suspension control hose.

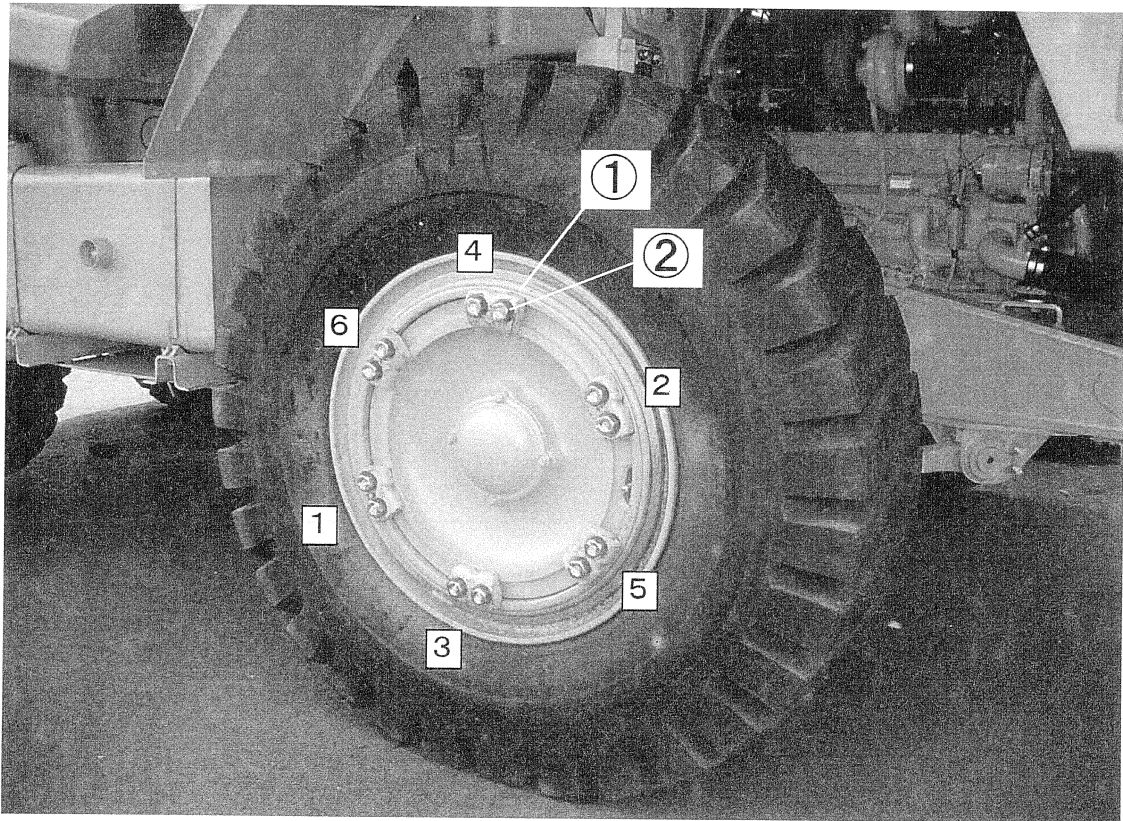
⊕ Tie rod fixing pin mounting bolt
Steering cylinder fixing pin mounting bolt

Tightening torque of these bolts:
490 - 608 N m {50 - 62.0 kg m}

Order of work	Work procedure
<ol style="list-style-type: none"> 1. Remove each mounting pin from the frame. 2. Fix the suspension cylinder. 3. Secure the A-arm. 4. Secure the steering cylinder. 5. Secure the tie rod. 6. Connect the brake hose/suspension control hose (5 pieces). 	<ul style="list-style-type: none"> • Since different pins are used for different parts, classify them so that they will not be mixed up. • Observe the tightening torque shown in the figure. • Observe the tightening torque shown in the figure. • Check the numbering of the hose on the axle side and the block on the frame side. (1, 2, 3, 4, and 5 from the front end)

INSTALLING FRONT TIRES

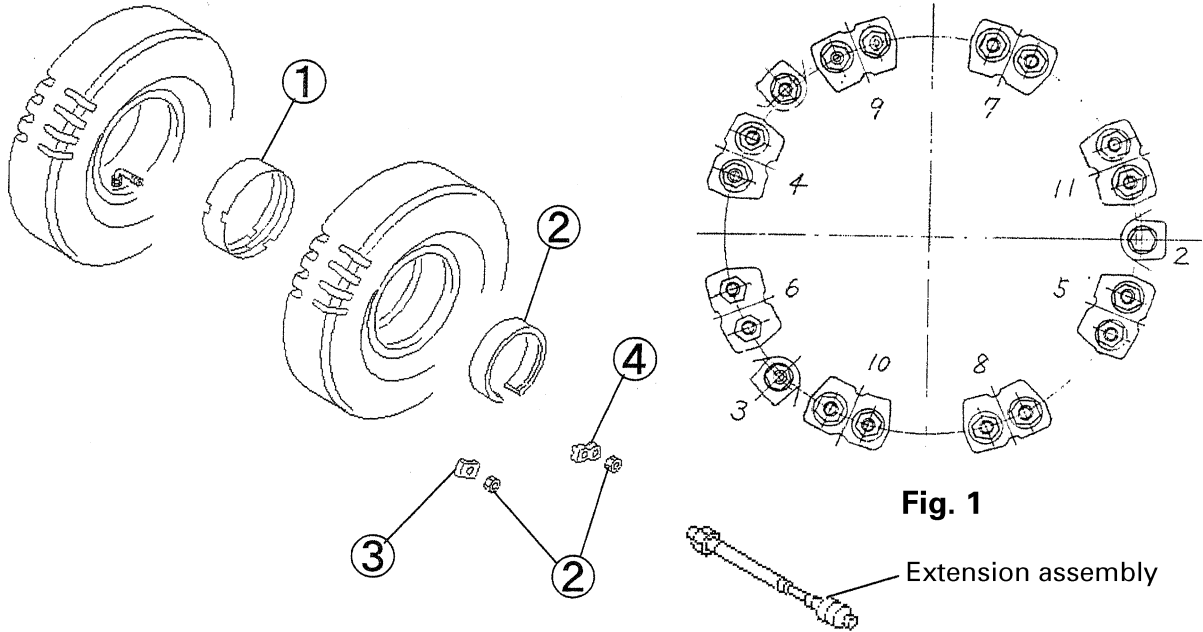
Process drawing



Order of work	Work procedure
<p>1. Install the right front tire.</p> <p>① 569-22-62841, 12 pieces, Clamp</p> <p>② 569-22-62870, 24 pieces, Nut</p> <ul style="list-style-type: none"> • Fix clamps ① with nuts ②. • Fix the clamps in the numerical order shown in the figure. • Tighten the nuts to the following torque. • When LM-G is applied to the threads and nut seats 84 – 105 kg·m (Target: 94.5 kg·m) • When nothing is applied to the threads and nut seats 110 – 135 kg·m (Target: 123.0 kg·m) 	<ul style="list-style-type: none"> • Reduce the sideways runout of the tire to below 5 mm.

INSTALLING REAR TIRES

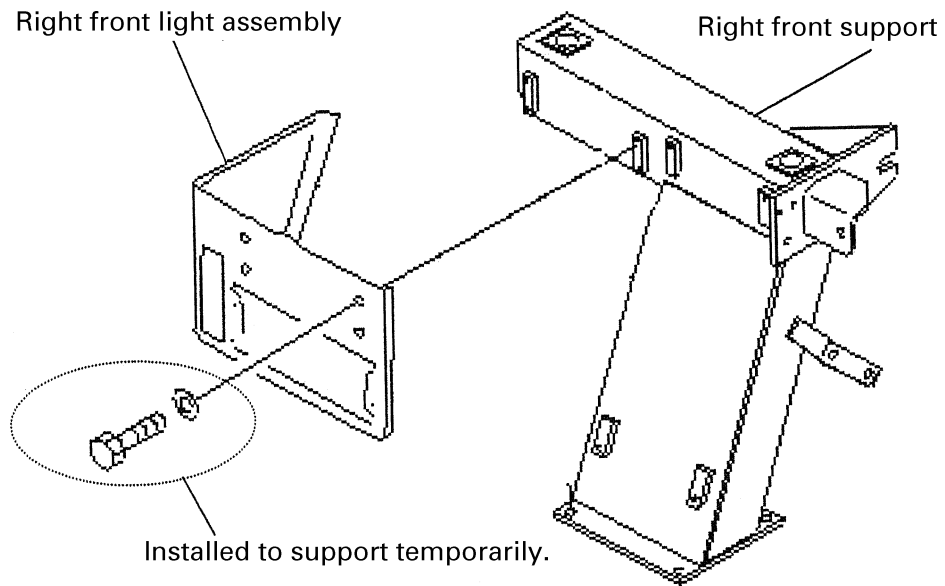
Process drawing



Order of work	Work procedure
<p>1. Install the rear tires.</p> <ul style="list-style-type: none"> ① 566-30-74120, 2 pieces, Spacer ② 566-81-14111, 2 pieces, Ring ③ 569-22-62830, 6 pieces, Clamp ④ 569-22-62841, 16 pieces, Clamp ⑤ 569-22-62870, 38 pieces, Nut <p>1) Install the inside wheel assembly and fix clamps 569-22-62830 No. 1, 2, and 3 shown in the figure with nuts 569-22-62870.</p> <ul style="list-style-type: none"> • Tighten the nuts to the following torque. • When LM-G is applied to the threads and nut seats 84 – 105 kg·m (Target: 94.5 kg·m) • When nothing is applied to the threads and nut seats 110 – 135 kg·m (Target: 123.0 kg·m) <p>2) Install spacer 566-30-74120, outside wheel assembly, and ring 566-81-14111, then fix 3 clamps 569-22-62841.</p> <p>3) Tighten nuts 569-22-62870 in the numerical order shown in Fig. 1. Observe the tightening torque shown in 1) above.</p> <p>4) Install the extension. Tightening torque: 0.3 ± 0.05 kgm</p>	<ul style="list-style-type: none"> • Remove paint, dirt, sand, rust, oil, grease, etc. from the contact faces of the wheel assembly and rear axle. • Reduce the sideways runout of the tire to below 5 mm. • Reduce the sideways runout of the tire to below 5 mm.

INSTALLING RIGHT FRONT LIGHT ASSEMBLY

Process drawing



Connection of wiring harness between headlight and chassi
CN32, CN33, CN34, CN35, CNB36, CN37

Order of work	Work procedure
<p>1. Install the front light to the front support. Connect the wiring harness between the light and chassis. (For the connectors, see the figure.)</p>	

INSTALLING GUARDS

Process drawing

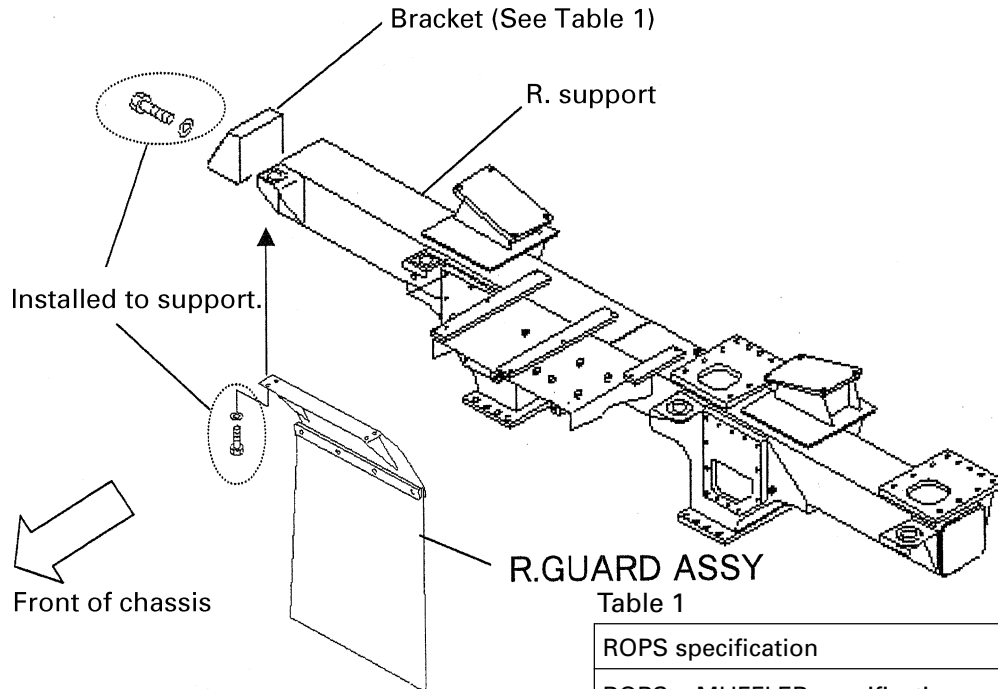
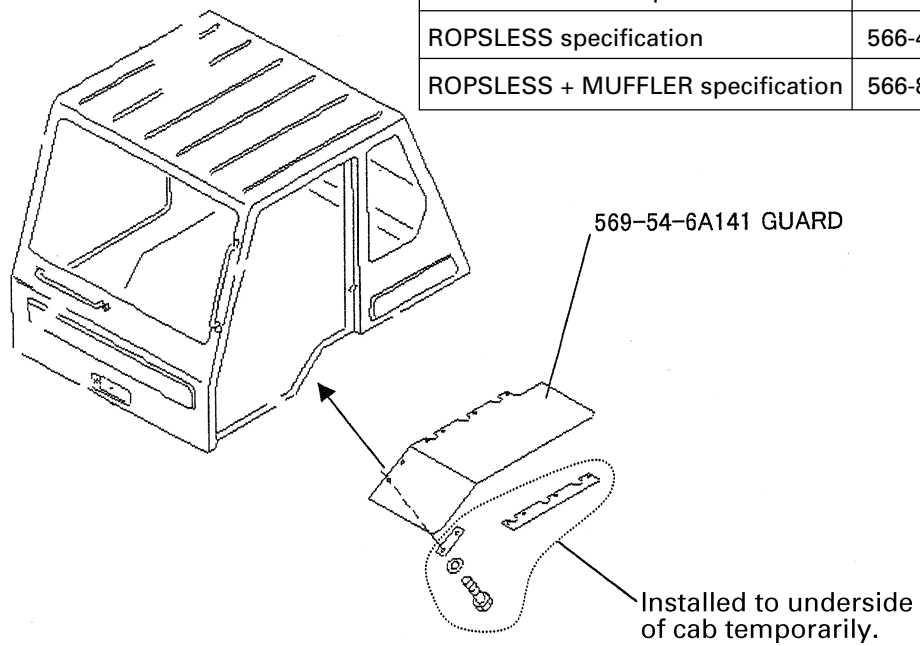


Table 1

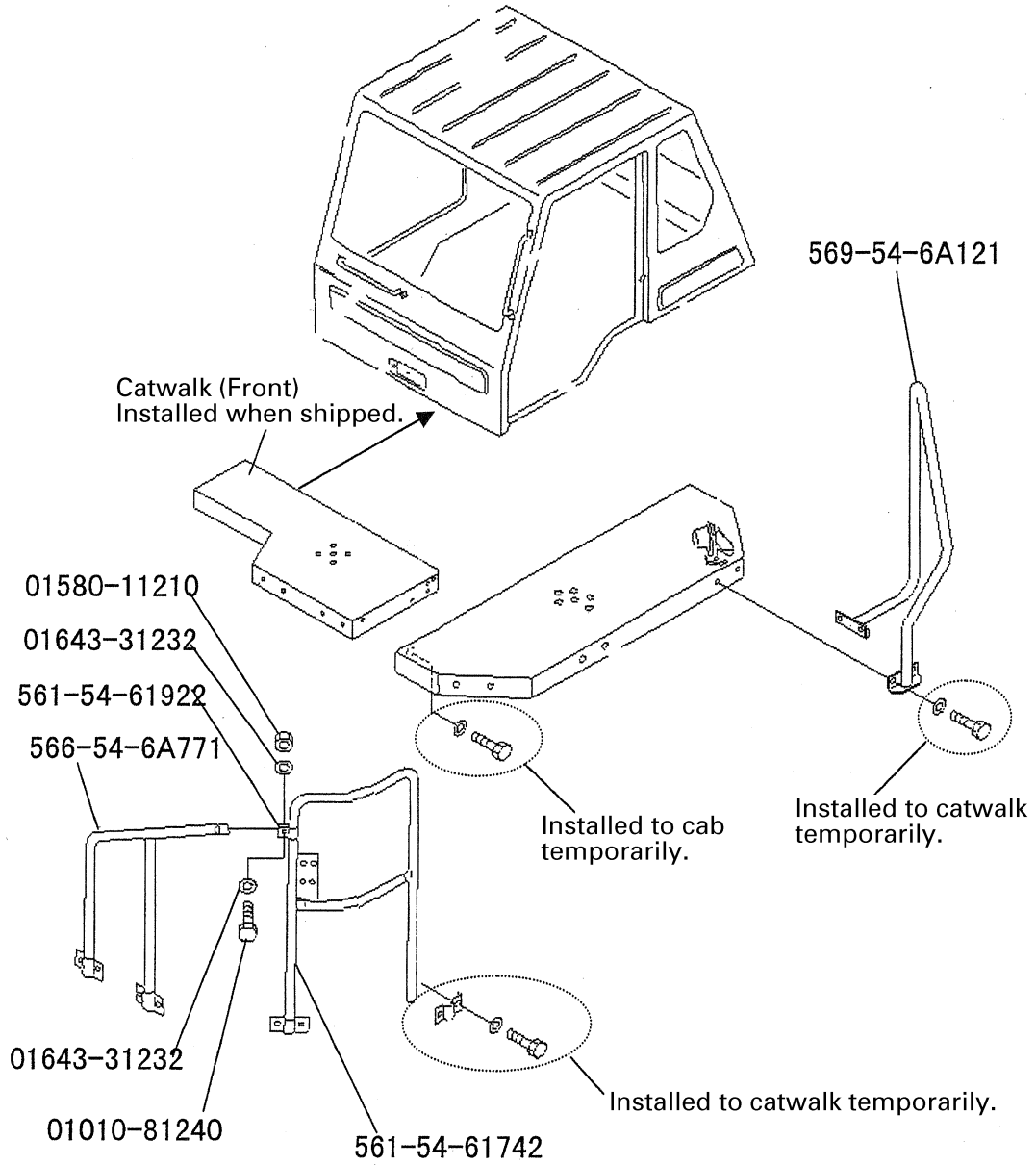
ROPS specification	566-89-6A990
ROPS + MUFFLER specification	566-84-6A790
ROPSLESS specification	566-46-6A980
ROPSLESS + MUFFLER specification	566-84-6A770



Order of work	Work procedure
<p>1. Install the bracket to the right of the rear support. Install the guard to the right underside of the rear support.</p> <ul style="list-style-type: none">• The parts for installation are installed to the chassis temporarily when shipped. <p>2. Install the guard to the left underside of the cab.</p> <ul style="list-style-type: none">• The parts for installation are installed to the chassis temporarily when shipped.	

INSTALLING CATWALK AND GUARD

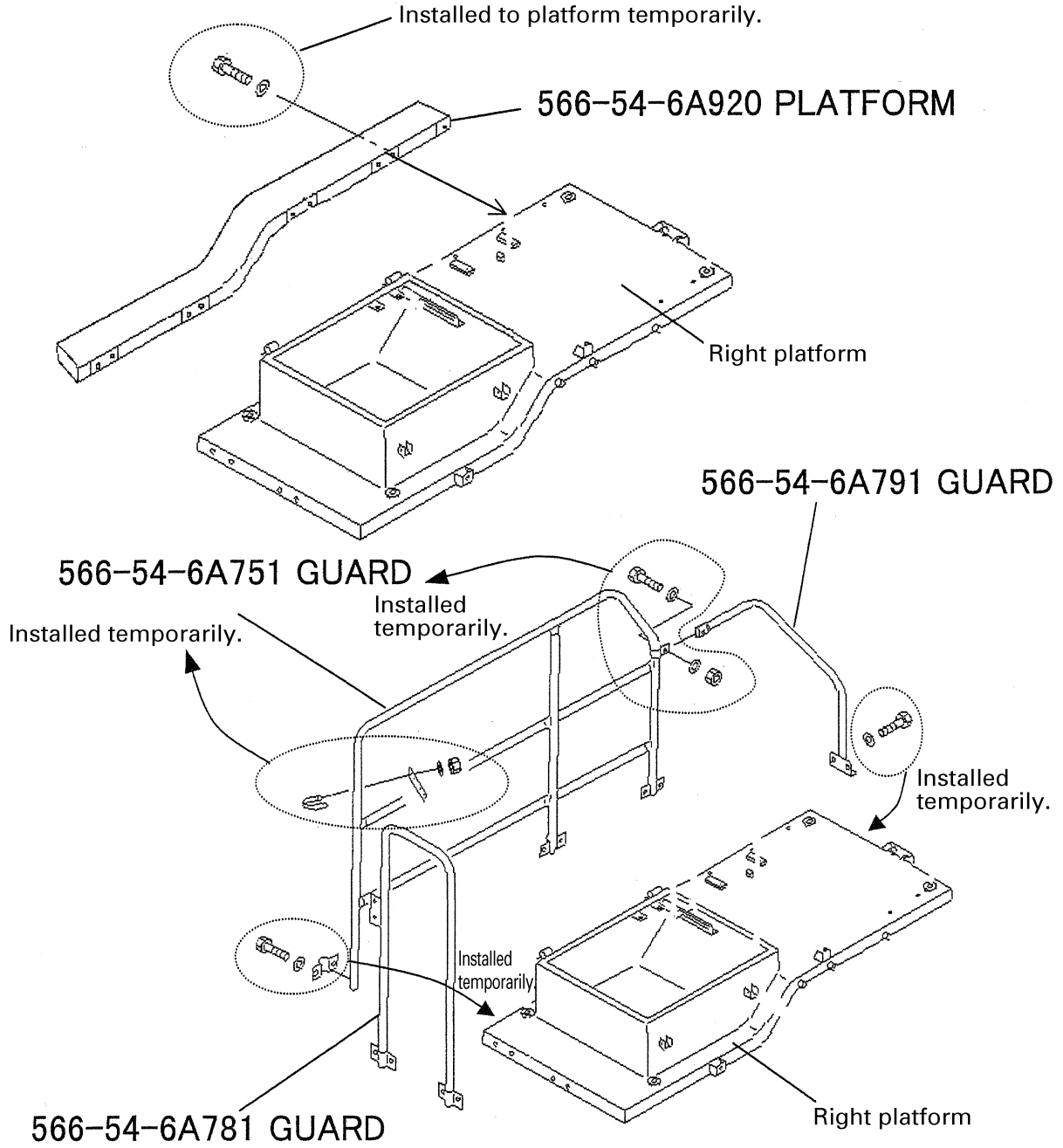
Process drawing



Order of work	Work procedure
<ol style="list-style-type: none"><li data-bbox="188 320 790 443">1. Install the catwalk assembly to the left side of the cab.<ul style="list-style-type: none"><li data-bbox="236 383 790 443">• The parts for installation are installed to the cab temporarily when shipped. <li data-bbox="188 638 790 739">2. Install the guard to the catwalk.<ul style="list-style-type: none"><li data-bbox="236 678 790 739">• The parts for installation are installed to the catwalk temporarily when shipped.	

ASSEMBLING RIGHT PLATFORM

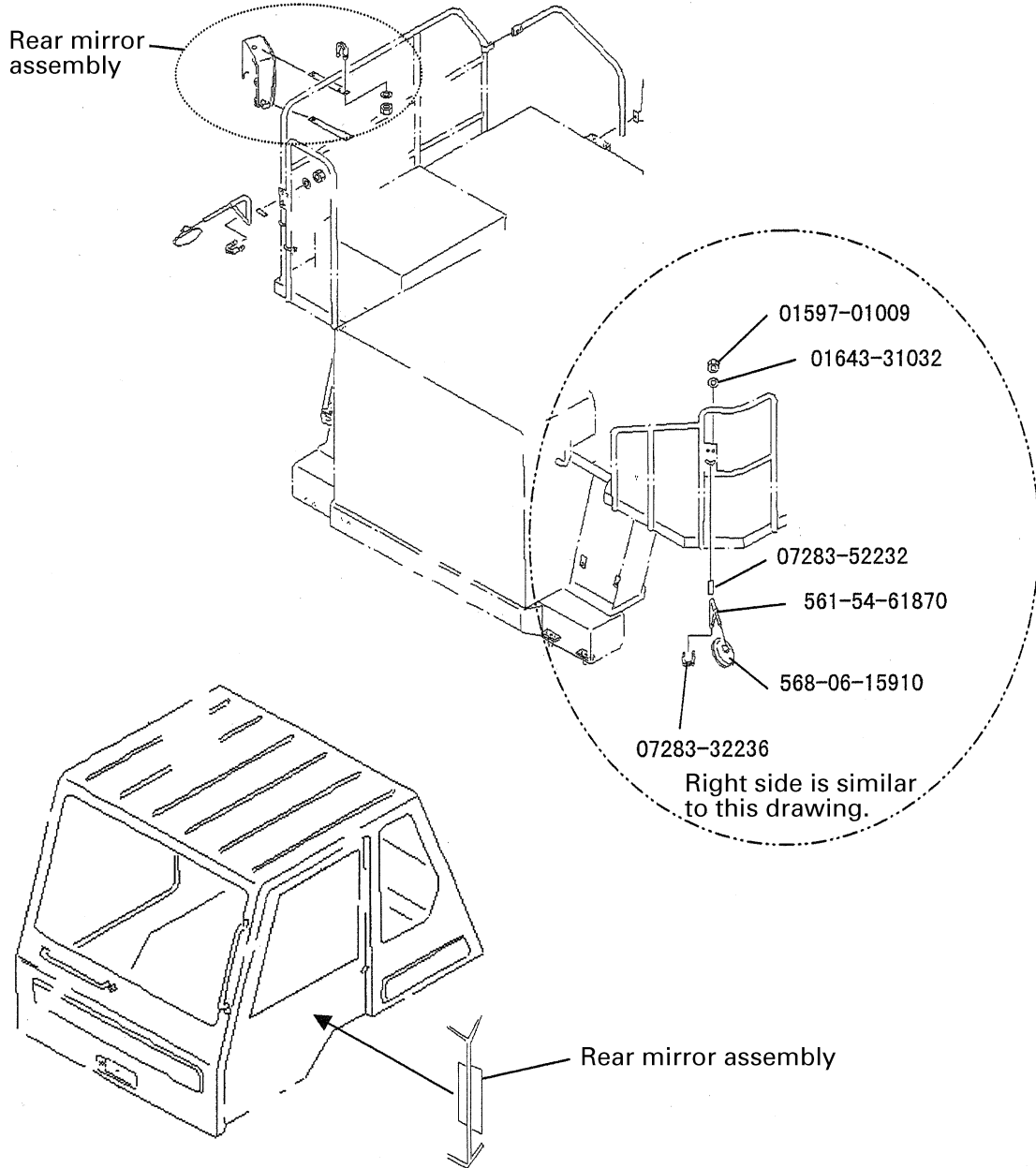
Process drawing



Order of work	Work procedure
<ol style="list-style-type: none"><li data-bbox="188 327 791 452">1. Install the platform to the side of the right platform.<ul style="list-style-type: none"><li data-bbox="236 389 791 452">• The bolts and washers are installed to the platform temporarily when shipped. <li data-bbox="188 931 791 1151">2. Install the guards to the right platform.<ul style="list-style-type: none"><li data-bbox="236 963 791 1061">• The parts for connecting the guards are installed to 566-54-6A751 temporarily when shipped.<li data-bbox="236 1061 791 1151">• The parts for installation of the guards are installed to the platform temporarily when shipped.	

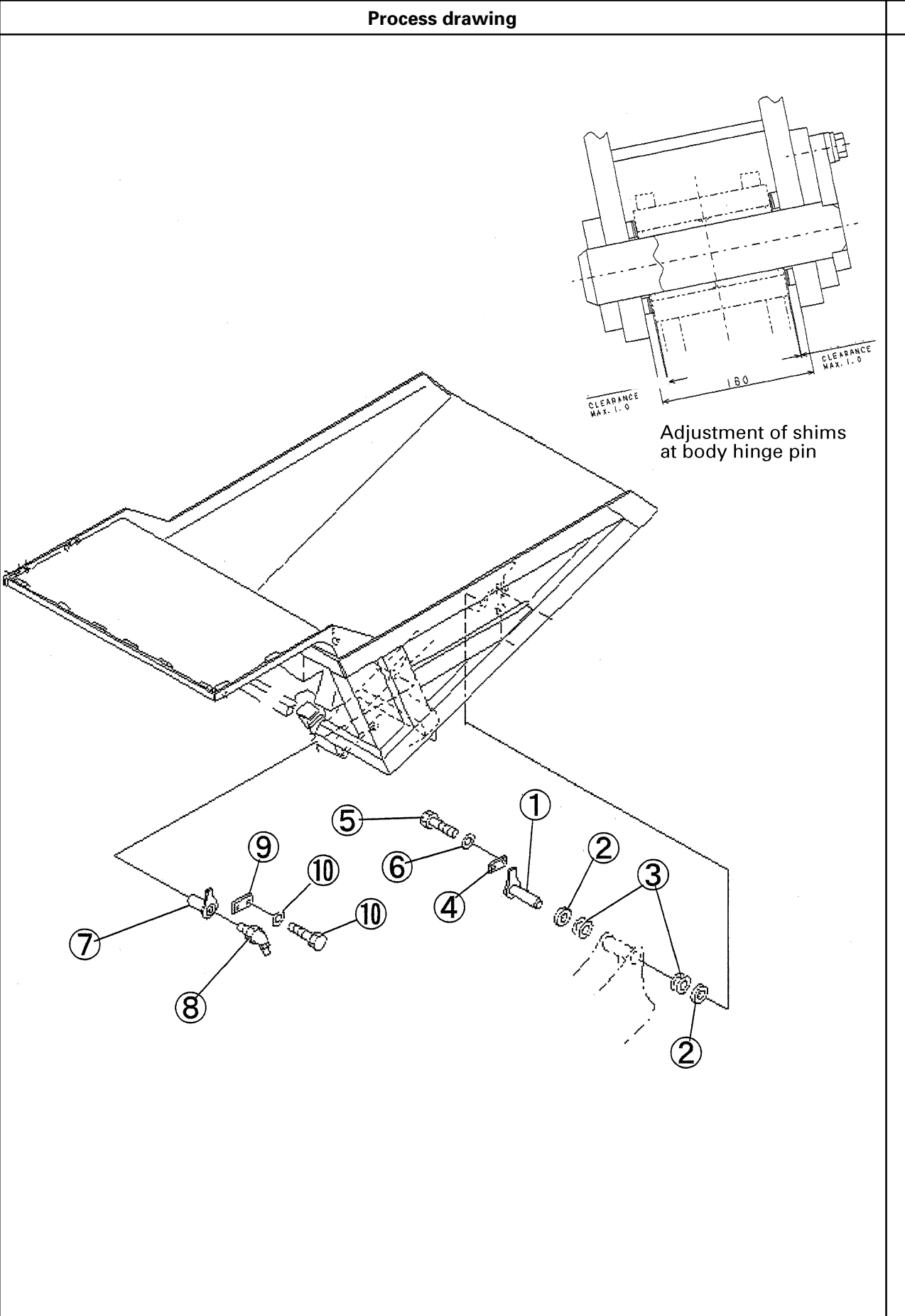
INSTALLING MIRRORS

Process drawing



INSTALLING BODY PINS

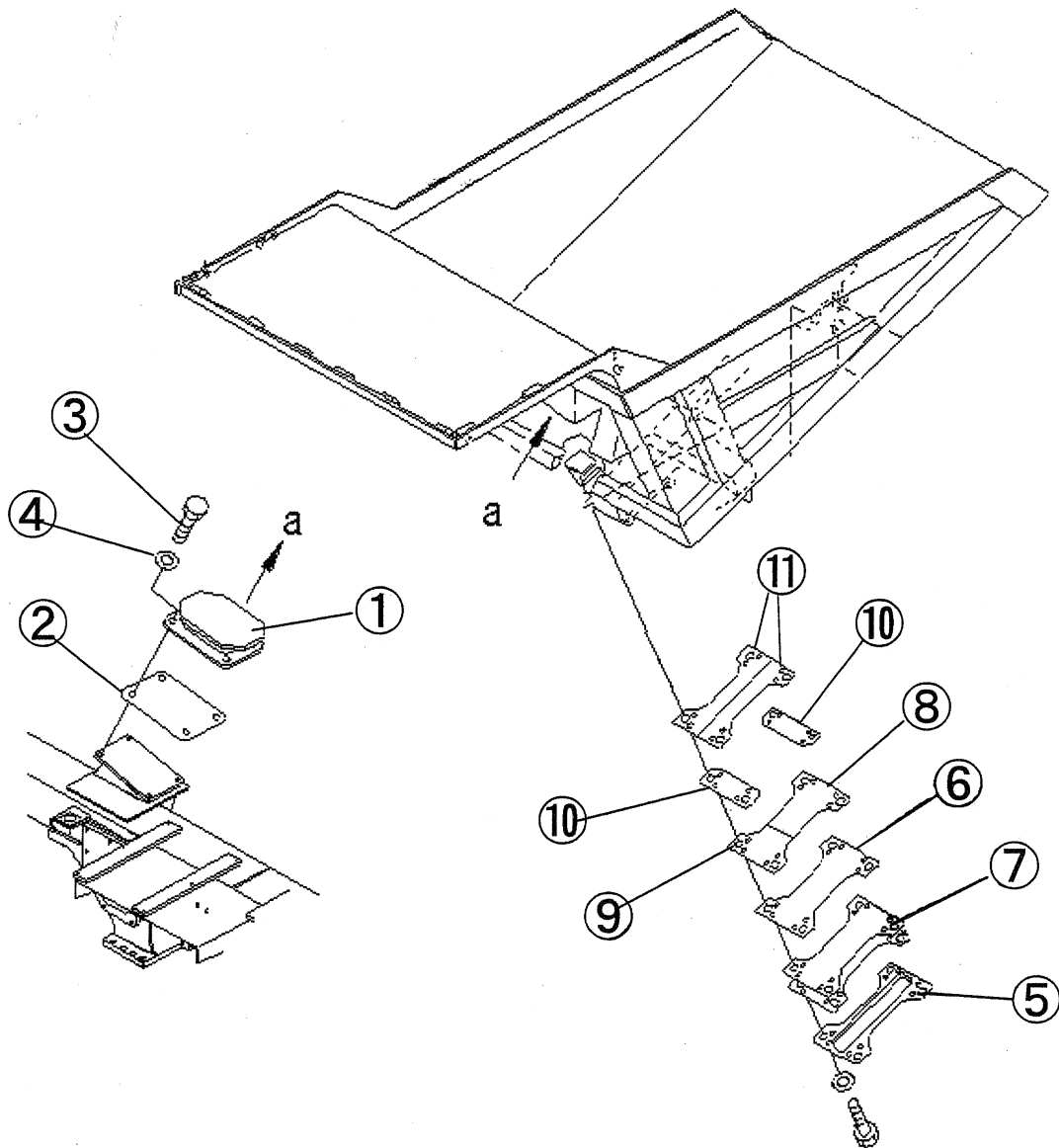
Process drawing



Order of work	Work procedure
<p>1. Install the hinge pins (on both sides).</p> <ul style="list-style-type: none"> ① 566-97-46170, 2 pieces, Pin ② 566-74-11270, 4 pieces, Shim ③ 566-74-11280, 16 pieces, Shim ④ 281-70-15290, 2 pieces, Plate ⑤ 01010-81425, 4 pieces, Bolt ⑥ 01643-31445, 4 pieces, Washer <p>2. Fix the hoist cylinders (on both sides).</p> <ul style="list-style-type: none"> ⑦ 566-97-46180, 2 pieces, Pin ⑧ 07020-00675, 2 pieces, Fitting ⑨ 281-70-15290, 2 pieces, Plate ⑩ 01010-81425, 4 pieces, Bolt ⑪ 01643-31445, 4 pieces, Washer 	

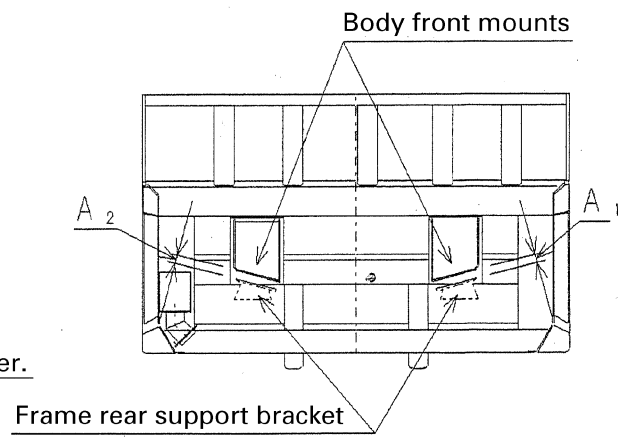
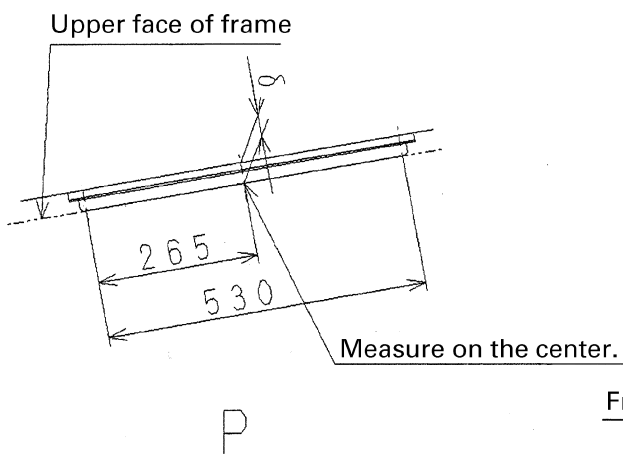
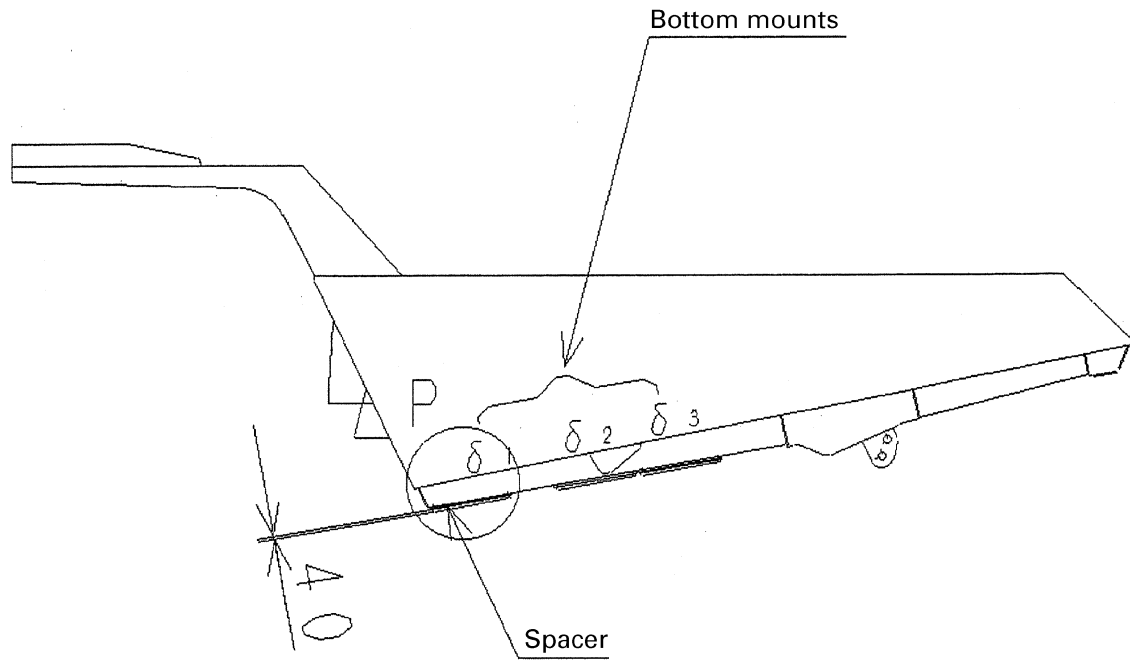
ADJUSTING BODY SHIMS

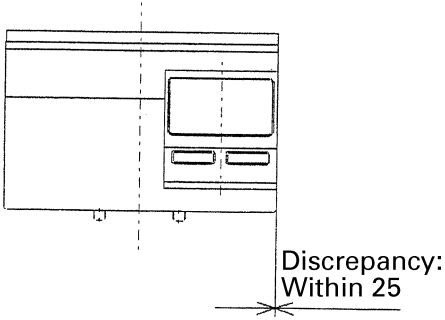
Process drawing



Order of work	Work procedure
<p>1. Body rest (Front mount)</p> <ul style="list-style-type: none"> ① 569-74-61520, 2 pieces, Pad ② 569-74-61580, 16 pieces, Shim ③ 01010-81650, 8 pieces, Bolt ④ 01643-31645, 8 pieces <p>2. Body pad (Bottom mount)</p> <ul style="list-style-type: none"> ⑤ 569-74-61511, 6 pieces, Pad ⑥ 569-74-61531, 18 pieces, Shim (t = 1.0) ⑦ 569-74-61541, 6 pieces, Shim (t = 3.2) ⑧ 569-74-61840, 3 pieces, Shim (t = 1.0) ⑨ 569-74-61850, 7 pieces, Shim (t = 1.0) ⑩ 569-74-61860, 9 pieces, Shim (t = 1.0) ⑪ 569-74-61870, 2 pieces, Shim (t = 1.0) ⑫ 01010-81645, 24 pieces, Bolt ⑬ 01643-31645, 24 pieces, Bolt 	<ul style="list-style-type: none"> • For adjustment of the shims, see H3-120. • For adjustment of the shims, see H3-120.

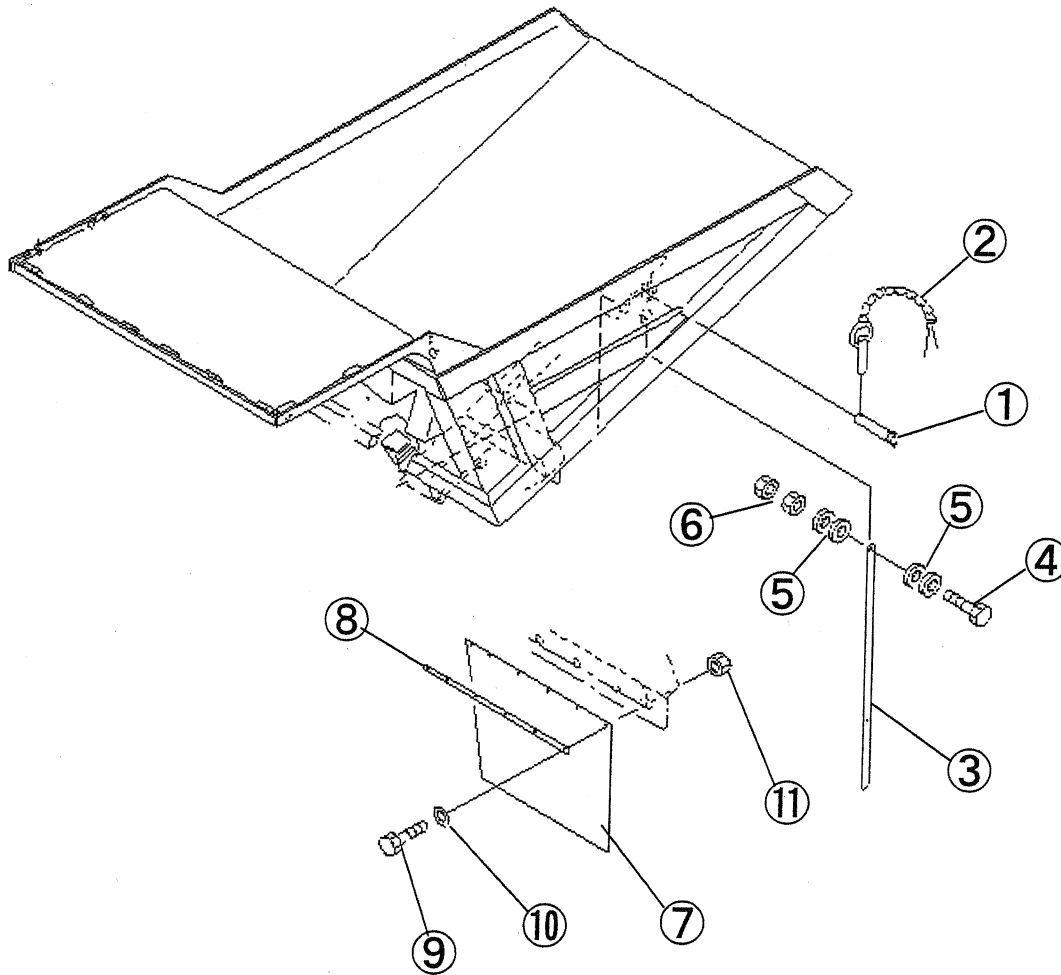
Process drawing



Order of work	Work procedure
<p>1. Adjusting the body mount shim Adjust the body mount shim according to the following procedure.</p> <p>(1) Bottom mounts (Rubber mounts of body bottom plate)</p> <ol style="list-style-type: none"> A. Insert a spacer 40 mm thick in the body end. B. Measure distance δ between the center of the body mount and the frame (6 places on both sides). C. Insert shims ($\delta 1 - 38$), ($\delta 2 - 38$), and ($\delta 3 - 38$) thick in the points of $\delta 1$, $\delta 2$, and $\delta 3$ respectively. D. Install the bottom mounts and remove the spacers. E. Lower the body and check that all of the 6 bottom mounts are in contact with the frame top. F. Finish adjustment of the bottom mounts. <p>(2) Front mounts (Rubber mounts of body front plate)</p> <ol style="list-style-type: none"> A. After the above adjustment of the bottom mounts, measure distances A1 and A2 between the body front mount and frame rear support. B. Set the thicknesses (quantity) of shims (569-74-61580) to (A1 - 51) mm and (A2 - 51) mm respectively. C. Install the shims having the thicknesses calculated in B above and then install rubber pad (569-74-61520). D. Lower the body and check that the total thickness of the rubber pad is 51 mm. If the total thickness is not 51 mm, adjust it to 51 mm with the shims. (Deflection: 1 mm) E. Finish adjustment of the front mount. 	<p>• After the body is installed, the discrepancy between the protector and cab must be 25 mm or less. If the discrepancy exceeds 25 mm, adjust it to below 25 mm with the shims of hinge pin (566-97-46170).</p> 

INSTALLING BODY ACCESSORIES

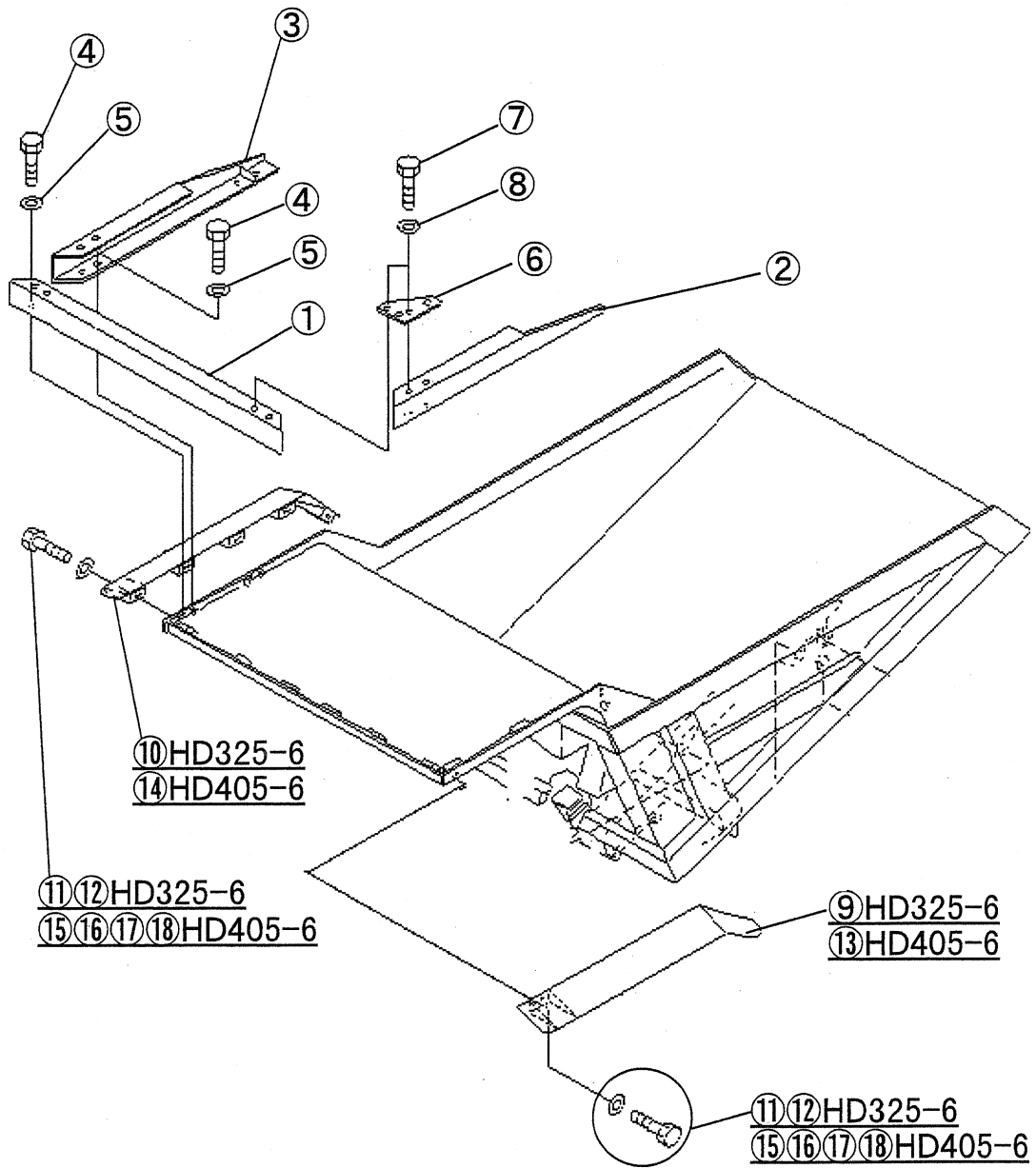
Process drawing



Order of work	Work procedure
<p>1. Install the safety pins.</p> <ul style="list-style-type: none"> ① 569-74-61670, 2 pieces, Pin ② 569-74-61470, 2 pieces, Pin <p>2. Install the poke ejector.</p> <ul style="list-style-type: none"> ③ 566-74-6A620, 2 pieces, Bar ④ 01011-82405, 2 pieces, Bolt ⑤ 01640-22540, 8 pieces, Washer ⑥ 01580-12419, 4 pieces, Nut <p>3. Install the mudguard.</p> <ul style="list-style-type: none"> ⑦ 566-74-41512, 2 pieces, Plate ⑧ 566-74-41521, 2 pieces, Plate ⑨ 01010-81235, 12 pieces, Bolt ⑩ 01643-31232, 12 pieces, Washer ⑪ 01580-11210, 12 pieces, Nut 	

INSTALLING BODY GUARDS

Process drawing

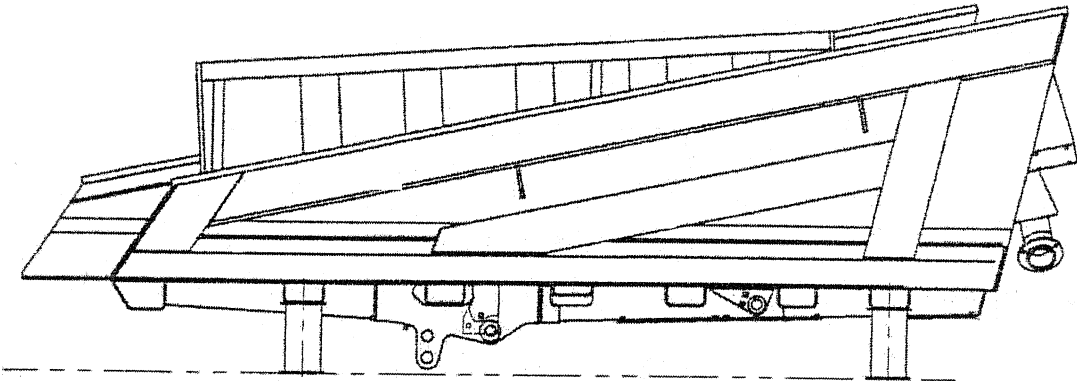


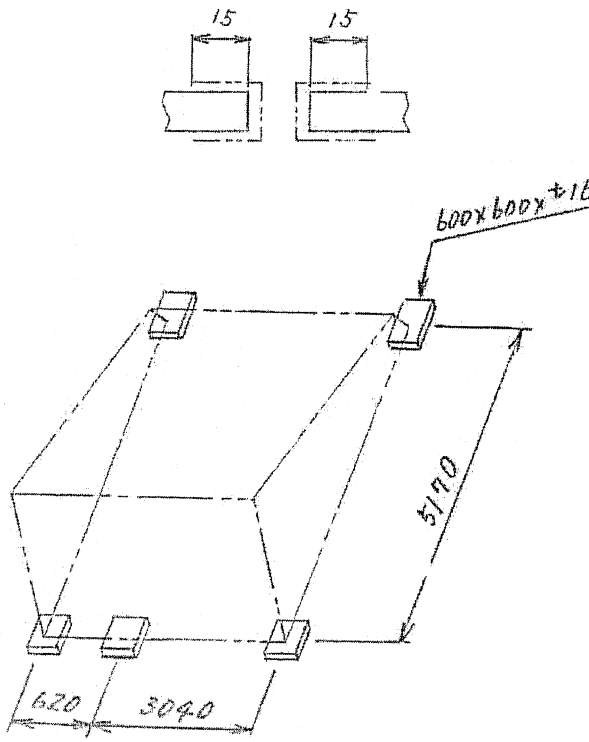
Order of work	Work procedure
<p>1. Install the spill guard and platform guard to the body.</p> <ul style="list-style-type: none"> ① 566-74-41431, 1 piece, Guard ② 566-74-41460, 1 piece, Guard (L) ③ 566-74-41470, 1 piece, Guard (R) ④ 01010-81225, 20 pieces, Bolt ⑤ 01643-31232, 20 pieces, Washer ⑥ 566-74-41480, 2 pieces, Plate ⑦ 01010-81225, 8 pieces, Bolt ⑧ 01643-21232, 8 pieces, Washer <p>HD325-6</p> <ul style="list-style-type: none"> ⑨ 566-74-41442, 1 piece, Guard ⑩ 566-74-41451, 1 piece, Guard ⑪ 01010-81225, 20 pieces, Bolt ⑫ 01643-31232, 20 pieces, Washer <p>HD405-6</p> <ul style="list-style-type: none"> ⑬ 569-83-65920, 1 piece, Guard ⑭ 569-83-65930, 1 piece, Guard ⑮ 01010-81440, 16 pieces, Bolt ⑯ 01643-31445, 16 pieces, Washer ⑰ 01010-81435, 8 pieces, Bolt ⑱ 01643-31445, 8 pieces, Washer 	

PREPARATION WORK

HD325-6

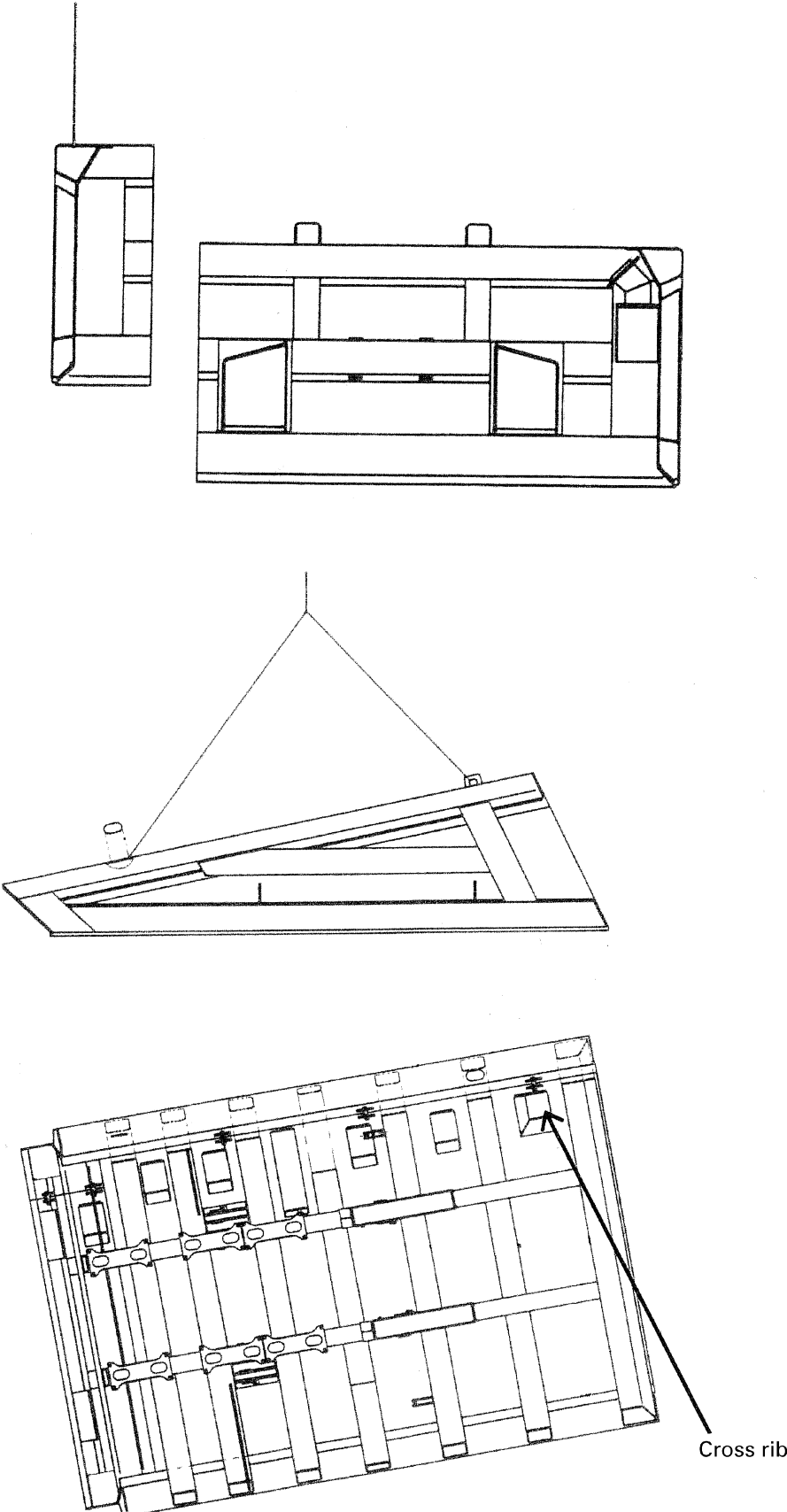
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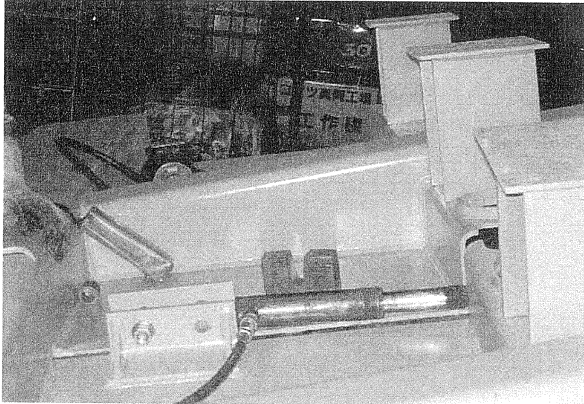
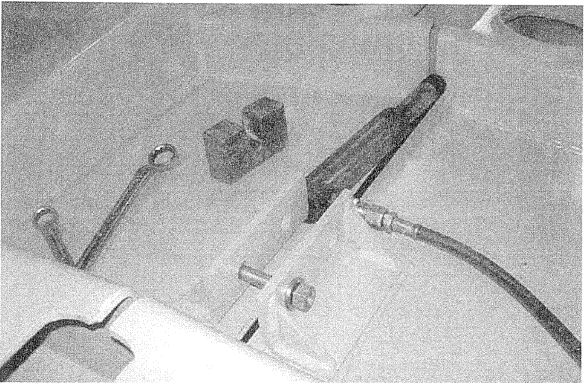


Order of work	Work procedure
<ol style="list-style-type: none"> 1. Select a place for work. 2. Arrange the welder, generator, and tools. 3. Lift off the body (in the normal position). 4. Remove the left side of the body and protector stored in the split body. 5. Remove the paint from the parts to be welded. 6. Turn over the split body. 7. Install the stands and the split body on the ground of the assembly shop as shown in the figure at right. 	<ul style="list-style-type: none"> • Secure an area of 169 m² (13 m x 13 m) on the floor or ground. • The gradient of the floor or ground must not exceed 0.05 m in 10 m. • Place the body on proper wood blocks. • Cut off the angle bar and plate used to secure the left of the body and protector with gas. At this time, hang the left side of the body and protector with a crane so that they will not fall after cut off. Cut off the left side of the body first, then the protector. • Remove the paint from the range of 15 mm through along the fitting line of the body. Burn the paint with a gas burner or scrape it with a grinder. <div style="text-align: center;">  <p>The diagram includes two cross-sectional views at the top, each showing a 15 mm gap between two components. Below these is a perspective view of a rectangular body supported by four stands. The body's length is 5170, and its width is 620. The distance between the inner stands is 3040. An arrow points to the stands with the label '600x600x15'.</p> </div>

ASSEMBLY OF SPLIT BODY

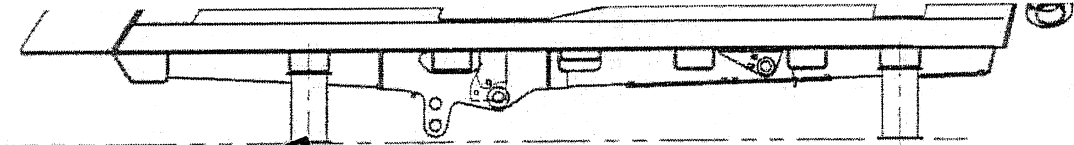
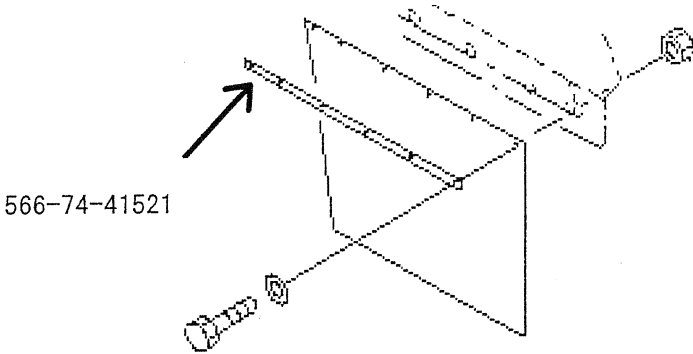
Process drawing

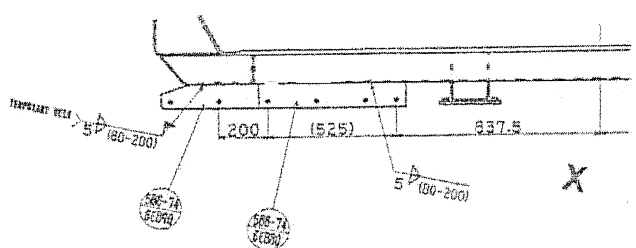
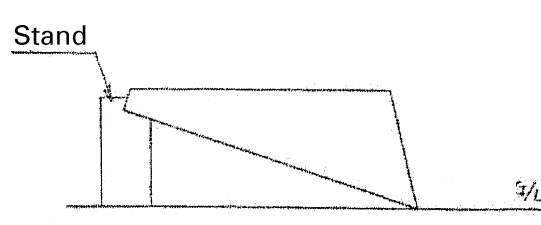
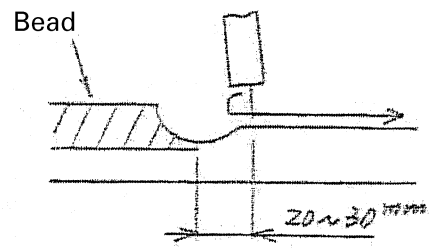
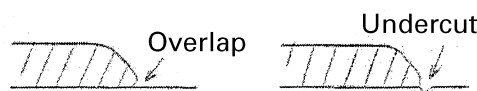


Order of work	Work procedure
<ol style="list-style-type: none"> 1. Set the right side of the split body on the stand. 2. Set the left side of the split body on the stand so that the clearance will be even. 3. Secure the body with the following parts, utilizing plates 566-83-6H190 (at 5 places). (See page 38, 39.) 01011-820100, Bolt, 5 pieces 01643-32060, Washer, 5 pieces 01580-12016, Nut, 5 pieces 581-74-11630, Tube, 5 pieces 4. Adjust the large end of the bottom plate, large end of the front plate, and ribs flush with each other. 5. Secure the body by tack welding. 6. Remove the cross ribs (7 pieces) tack-welded to the bottom plate and install them by tack welding, matching them to the ribs of the bottom plate. When installing the ribs, remove the mudguard mounting plate (566-74-6EB90, Plate). 	<ul style="list-style-type: none"> • If both sides are not matched accurately, adjust them with hydraulic cylinders. • When setting the right side, utilize the hanging plate on the underside of the side plate and the exhaust port. • If the split parts are deviated from each other excessively, correct them with hydraulic cylinders. • When correcting them, check that the mounting bolts are loosened. <div style="text-align: right;">   </div>

WELDING BODY

Process drawing



Order of work	Work procedure
<p>1. Weld the front plate. (See page 38, 39.)</p> <p>2. Weld the bottom plate on the level. (See page 38, 39.) After welding the ribs, secure the mudguard mounting plate removed before by tack welding at the angle of the plate installed to the bottom plate, then weld it. Check the mounting hole pitch with mating plate (566-74-41521).</p> 	<ul style="list-style-type: none"> Apply arc welding to the front plate in vertical position. Observe the welding condition shown in Table 1. Put a stand under the rear part of the bottom plate to keep the bottom plate on the level. 
<p>3. Remove the stands (4 pieces) for transportation installed to the bottom plate.</p> <p>4. After finishing the welding work, remove the spatters and finish the beads with a grinder.</p> <p>5. Check the welded parts for a defect. (1) Check the deposited metal. (2) Check for an undercut, overlap, and spatter. (3) Check the leg length of weld for shortage (Insufficient leg length is not permitted.)</p>	<ul style="list-style-type: none"> Perform back-step welding to connect beads and start welding.  

WELDING BODY

Process drawing

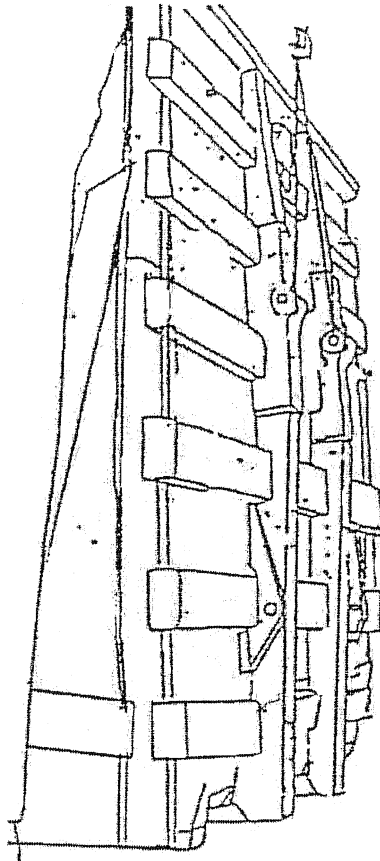
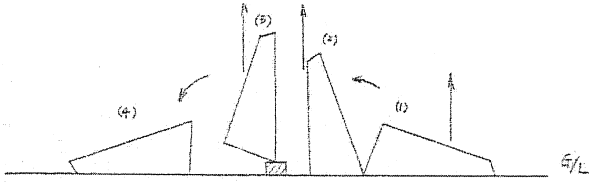
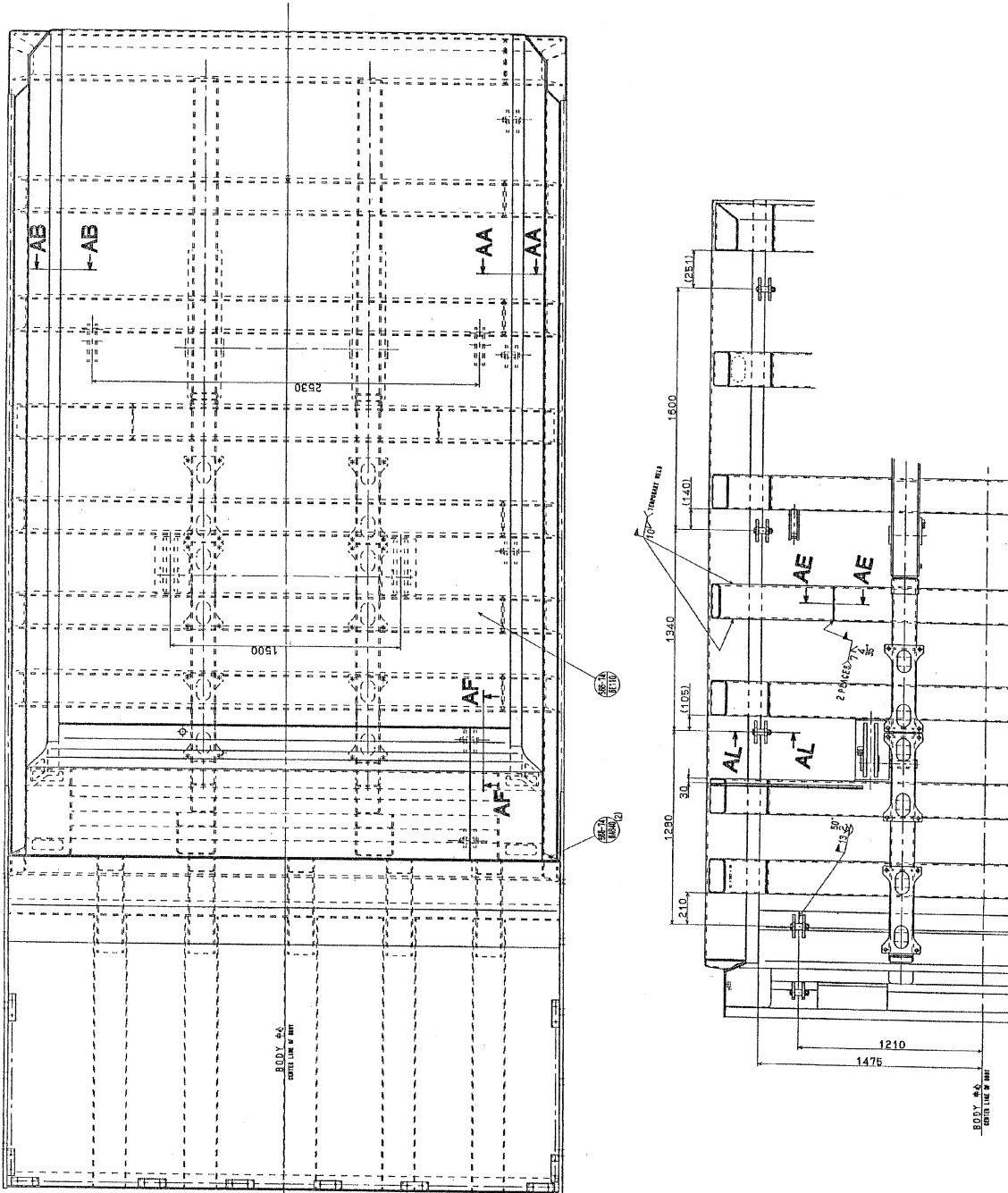


Table 1

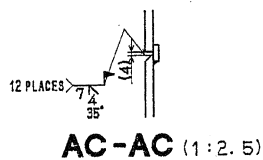
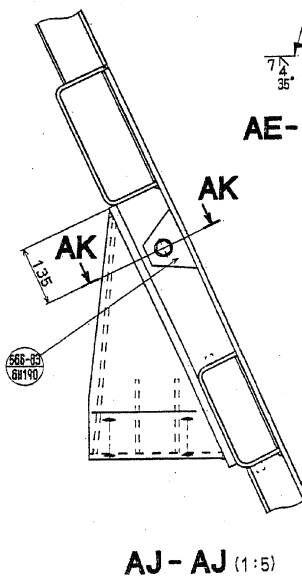
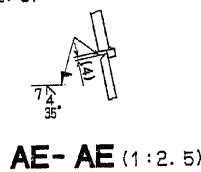
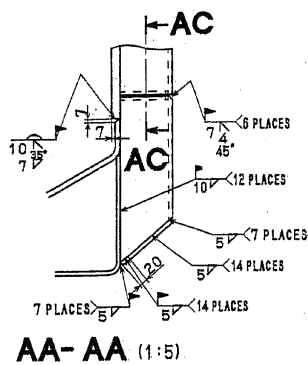
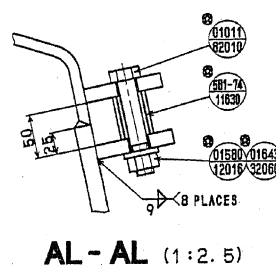
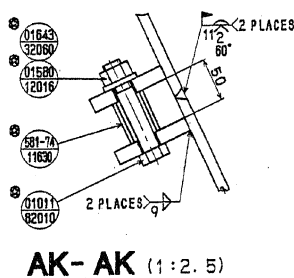
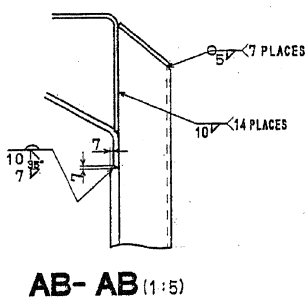
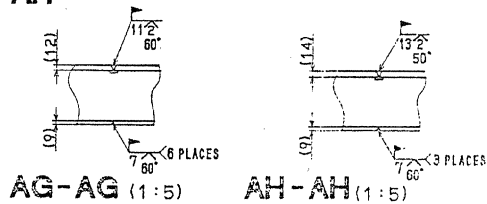
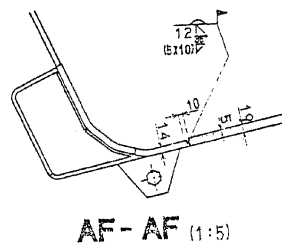
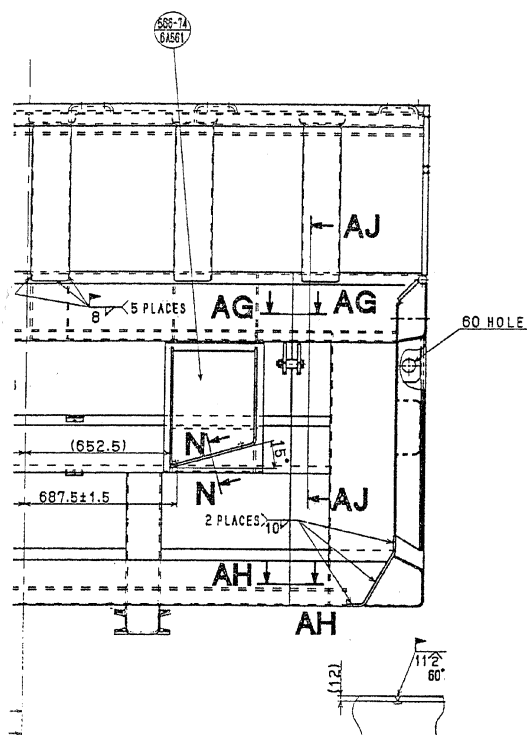
	CO ₂ gas arc welding	Arc welding	Remarks
Welding position	Flat (F)	Flat, vertical (V)	(1) Do not apply CO ₂ gas welding when wind velocity is higher than 2 – 3 (m/sec). (2) Remove moisture, dust, and paint from surfaces to be welded.
Welding rod	JIS Z3312YGW11 or equivalent φ1.2, 1.6	JIS Z3212D5016 or equivalent φ4.0, 5.0	
Welding current (A)	320 – 350, 380 – 420	130– 160, 220– 260	
Preheating/Postheating	Unnecessary	Unnecessary	
Gas shielding rate (ℓ/min)	25 – 35	—	

Order of work	Work procedure
<p>6. Turn over the body. Install a sling to the body hinge holes of the bottom plate to turn over the body.</p> <p>Keeping the body in the position shown at left (lifted with a crane), weld the inside of the front plate. Then, lower the body and weld the inside of the bottom plate.</p> 	<ul style="list-style-type: none"> • Put wood blocks under the front and rear parts of the bottom plate. • Connect the ground cable for welding to the body securely. • Apply CO₂ gas shielded arc welding as standard. If it is difficult to apply, however, apply arc welding. • Drying time of arc welding rod <ul style="list-style-type: none"> ① Temperature: 150 – 200°C ② Time: 120 minutes

Process drawing

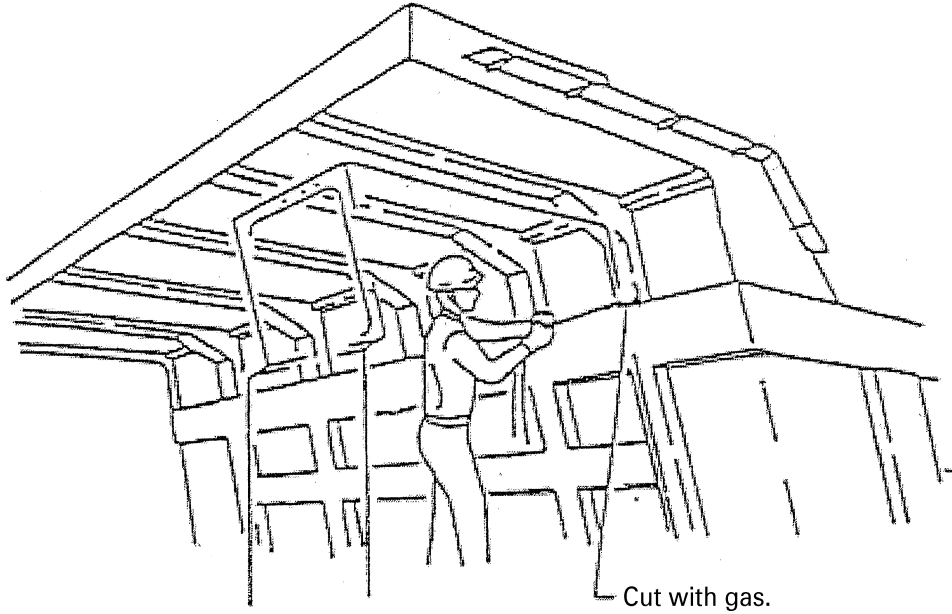


Process drawing

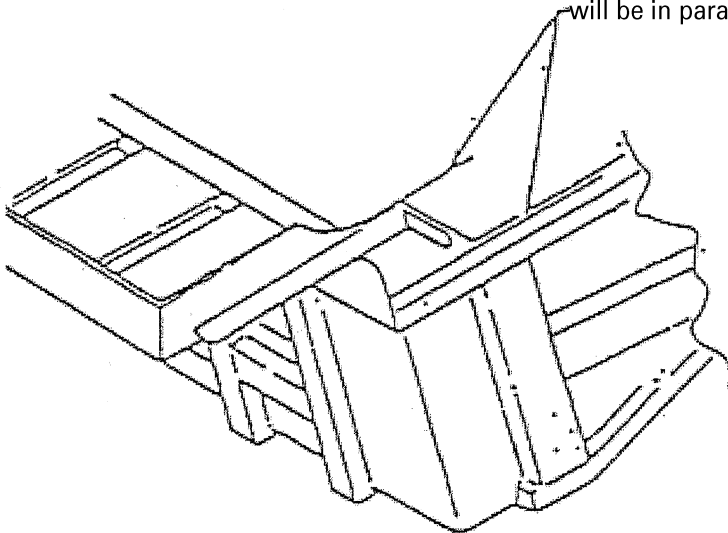


WELDING BODY PROTECTOR

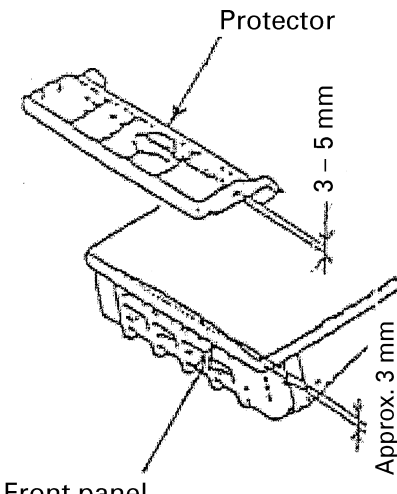
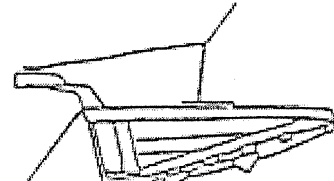
Process drawing



Position body side plate and protector so that their tops will be in parallel with each other.



	CO ₂ gas arc welding	Arc welding	Remarks
Welding position	Flat (F)	Flat, vertical (V)	(1) Do not apply CO ₂ gas welding when wind velocity is higher than 2 – 3 (m/sec). (2) Remove moisture, dust, and paint from surfaces to be welded.
Welding rod	JIS Z3312YGW11 or equivalent φ1.2, 1.6	JIS Z3212D5016 or equivalent φ4.0, 5.0	
Welding current (A)	320 – 350, 380 – 420	130 – 160, 220 – 260	
Preheating/Postheating	Unnecessary	Unnecessary	
Gas shielding rate (ℓ/min)	25 – 35	—	

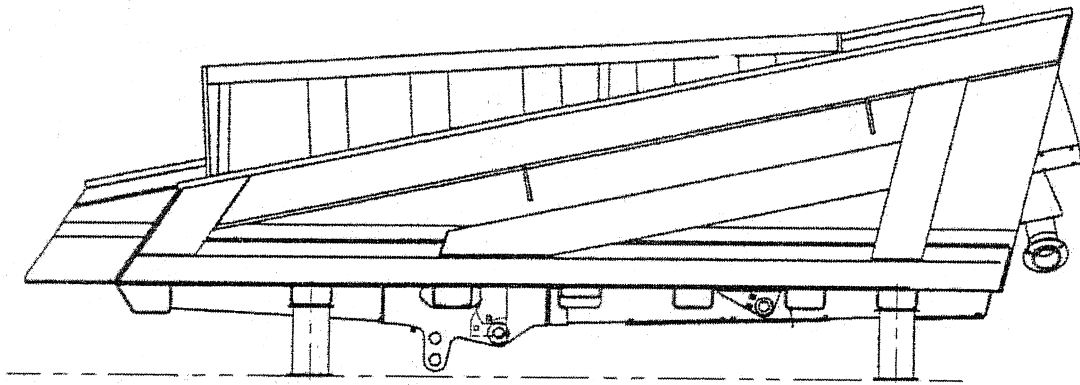
Order of work	Work procedure
<p>1. Weld the protector.</p> <p>(1) Place the protector on the tops of the side plate and front plate with a crane.</p> <ul style="list-style-type: none"> • Capacity of crane: Min. 2 tons • Lift of crane: Min. 7 m • Breaking strength of wire rope, chain, chain block: Min. 2 tons <p>(2) Position the protector so that the end of the body side plate will be in parallel with the protector side plate.</p> <p>(3) Cut the front and side plates of the protector with gas so that the top of the body side plate and will be in parallel with the top of the protector.</p> <p>Note: Since the protector and front plate are distorted by welding as shown below, the front and side plates of the protector must be cut with gas so that the clearance will be minimized at the time of welding. (Reduce the clearance to below 3 mm.)</p> <p>(4) After positioning, tack-weld the front panel of the protector.</p> <div style="text-align: center;">  <p>Protector</p> <p>3 - 5 mm</p> <p>Approx. 3 mm</p> <p>Front panel</p> </div> <p>Check parallelism with level and reduce error to tolerance of $\pm 10'$.</p> <div style="text-align: center;">  <p>Determine gas-cutting dimensions with actual parts.</p> </div>	<ul style="list-style-type: none"> • If any plate is used to secure the protector, remove it with a gas cutting device or a grinder.

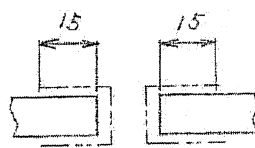
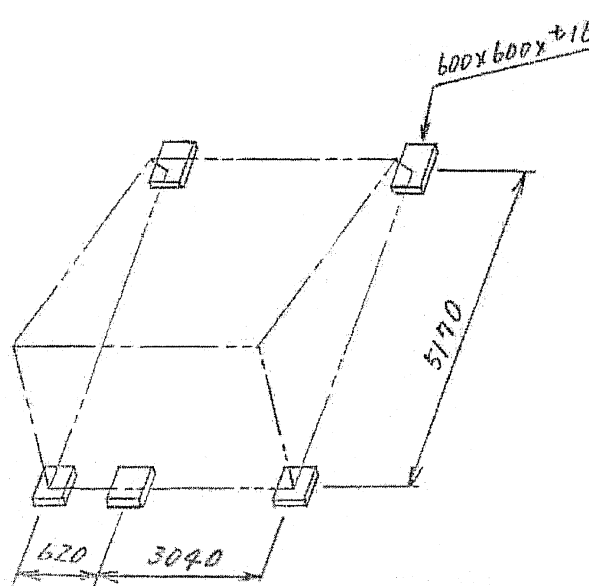
Order of work	Work procedure
<p>(5) Weld the protector. (See page 38, 39.)</p> <ul style="list-style-type: none"> • Welding order: Weld the side plate first. • Welding symbol: Shown in the welding instruction drawing. • Welding condition: Shown in welding condition table on the previous page. • Perform welding according to KES04.343, General, 2nd Grade. <p>(6) Finishing Remove the spatters and finish the beads with a grinder. Cut the hanging plate welded to the top of the body with gas and finish the marks of weld with a grinder.</p> <p>(7) Check the welded parts for defects.</p> <ol style="list-style-type: none"> ① Crack of weld bead (visual check) ② Undercut, overlap, and spatter ③ Leg length of weld for shortage (Insufficient leg length is not permitted.) <p>(8) After cooling, paint the welded parts.</p> <ol style="list-style-type: none"> ① Mix the base and hardener of the paint well at the ratio of 5:1 as specified. ② After painting, clean the paint spray gun with paint thinner before the paint is hardened. <p>[Undercoat paint] RETAN GP primer RETAN GP hardener RETAN GP thinner [Top coat paint] NAX MIGHTYLAC II KB natural yellow NAX MIGHTYLAC II KB hardener NAX MIGHTYLAC II KB thinner</p>	<ul style="list-style-type: none"> • Apply CO₂ gas shielded arc welding as standard. If it is difficult to apply, however, apply arc welding. • Drying time of arc welding rod <ol style="list-style-type: none"> (1) Temperature: 150 – 200°C (2) Time: 120 minutes <div data-bbox="829 577 1436 840" data-label="Image"> </div> <ul style="list-style-type: none"> • Put on mask, goggles, gloves, etc. to protect yourself from paint mist.

PREPARATION WORK

HD405-6

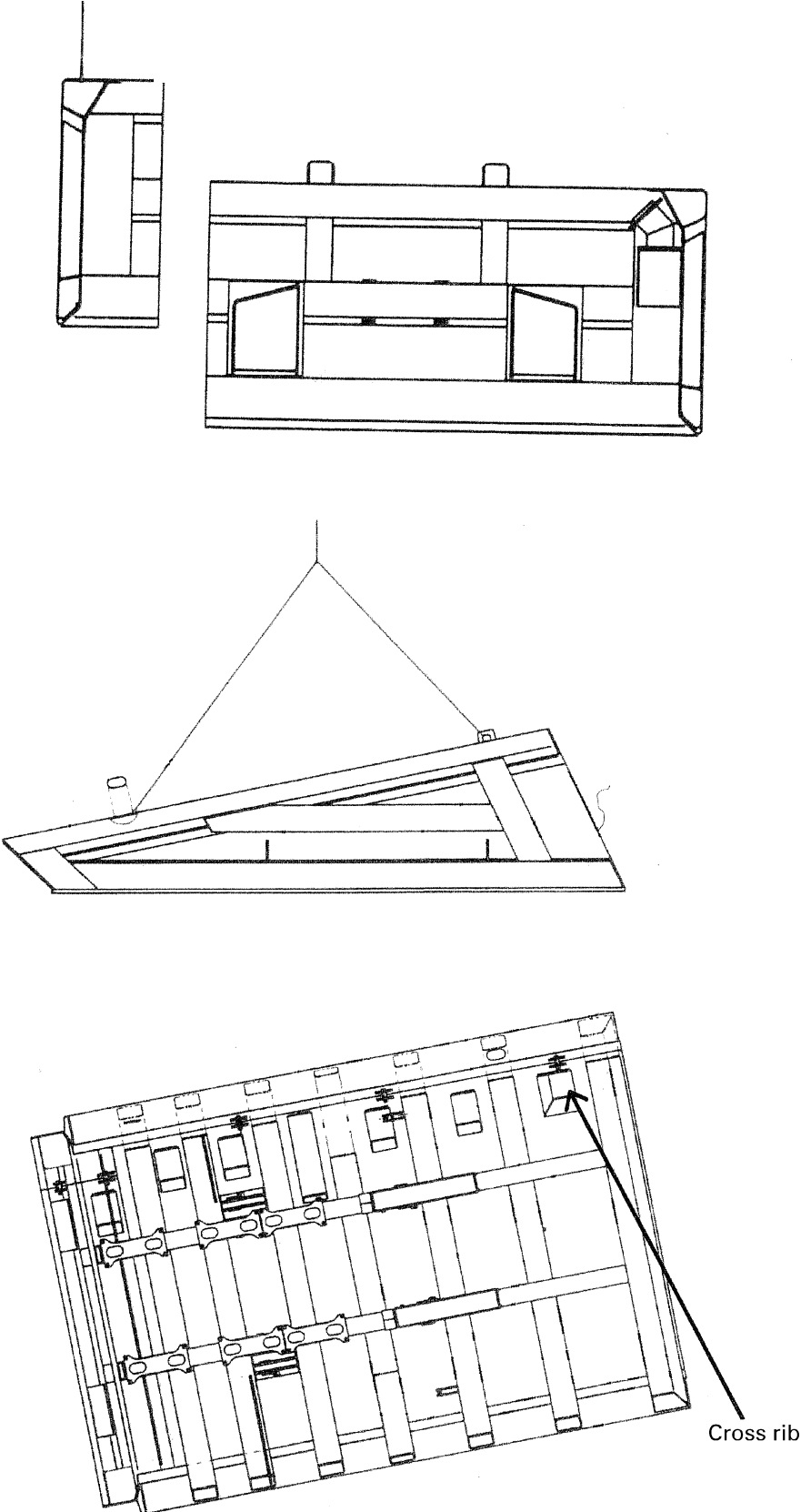
Process drawing

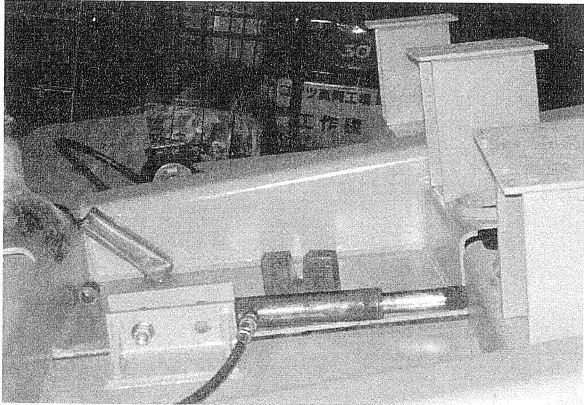
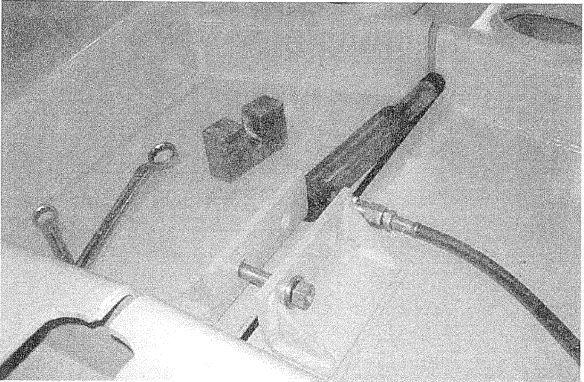


Order of work	Work procedure
<ol style="list-style-type: none"> 1. Select a place for work. 2. Arrange the welder, generator, and tools. 3. Lift off the body (in the normal position). 4. Remove the left side of the body and protector stored in the split body. 5. Remove the paint from the parts to be welded. 6. Turn over the split body. 7. Install the stands and the split body on the ground of the assembly shop as shown in the figure at right. 	<ul style="list-style-type: none"> • Secure an area of 169 m² (13 m x 13 m) on the floor or ground. • The gradient of the floor or ground must not exceed 0.05 m in 10 m. • Place the body on proper wood blocks. • Cut off the angle bar and plate used to secure the left of the body and protector with gas. At this time, hang the left side of the body and protector with a crane so that they will not fall after cut off. Cut off the left side of the body first, then the protector. • Remove the paint from the range of 15 mm through along the fitting line of the body. Burn the paint with a gas burner or scrape it with a grinder. <div style="text-align: center;">  </div> <div style="text-align: center;">  </div>

ASSEMBLY OF SPLIT BODY

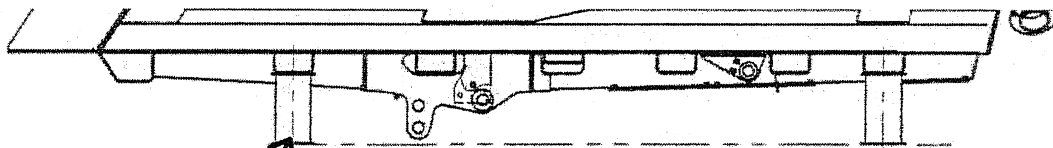
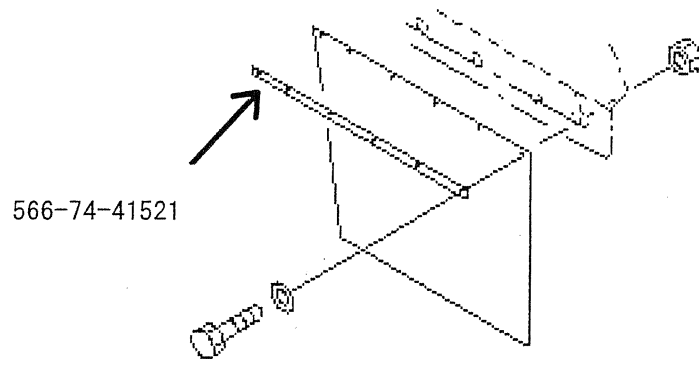
Process drawing

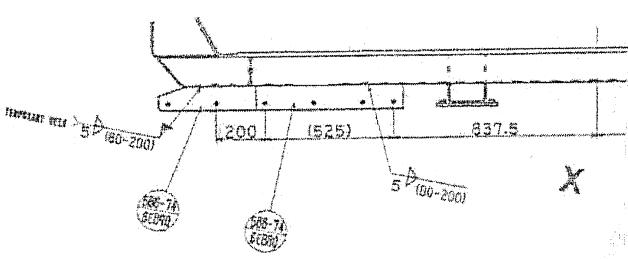
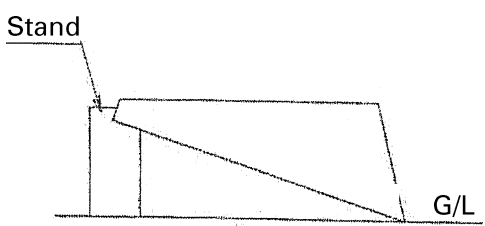
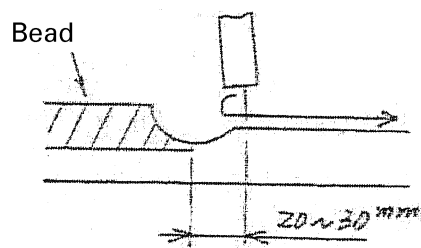
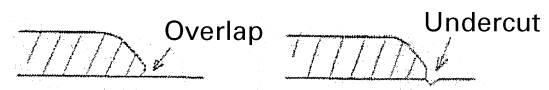


Order of work	Work procedure
<ol style="list-style-type: none"> 1. Set the right side of the split body on the stand. 2. Set the left side of the split body on the stand so that the clearance will be even. 3. Secure the body with the following parts, utilizing plates 566-83-6H190 (at 5 places). (See page 52, 53.) 01011-82010, Bolt, 5 pieces 01643-32060, Washer, 5 pieces 01580-12016, Nut, 5 pieces 581-74-11630, Tube, 5 pieces 4. Adjust the large end of the bottom plate, large end of the front plate, and ribs flush with each other. 5. Secure the body by tack welding. 6. Remove the cross ribs (7 pieces) tack-welded to the bottom plate and install them by tack welding, matching them to the ribs of the bottom plate. When installing the ribs, remove the mudguard mounting plate (566-74-6EB90, Plate). 	<ul style="list-style-type: none"> • If both sides are not matched accurately, adjust them with hydraulic cylinders. • When setting the right side, utilize the hanging plate on the underside of the side plate and the exhaust port. • If the split parts are deviated from each other excessively, correct them with hydraulic cylinders. • When correcting them, check that the mounting bolts are loosened. <div style="text-align: center;">   </div>

WELDING BODY

Process drawing



Order of work	Work procedure
<p>1. Weld the front plate. (See page 52, 53.)</p> <p>2. Weld the bottom plate on the level. (See page 52, 53.) After welding the ribs, secure the mudguard mounting plate removed before by tack welding at the angle of the plate installed to the bottom plate, then weld it. Check the mounting hole pitch with mating plate (566-74-41521).</p>  <p>3. Remove the stands (4 pieces) for transportation installed to the bottom plate.</p> <p>4. After finishing the welding work, remove the spatters and finish the beads with a grinder.</p> <p>5. Check the welded parts for a defect. (1) Check the deposited metal. (2) Check for an undercut, overlap, and spatter. (3) Check the leg length of weld for shortage (Insufficient leg length is not permitted.)</p>	<ul style="list-style-type: none"> Apply arc welding to the front plate in vertical position. Observe the welding condition shown in Table 1. Put a stand under the rear part of the bottom plate to keep the bottom plate on the level.  <ul style="list-style-type: none"> Perform back-step welding to connect beads and start welding.  

Process drawing

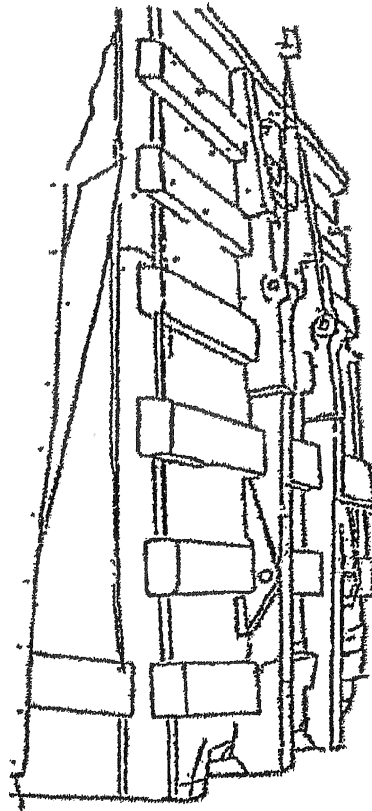
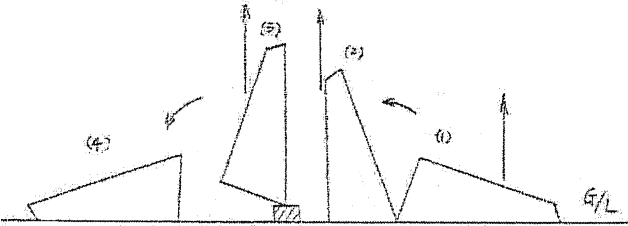
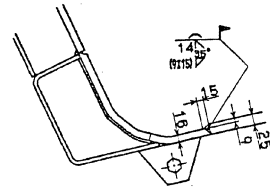
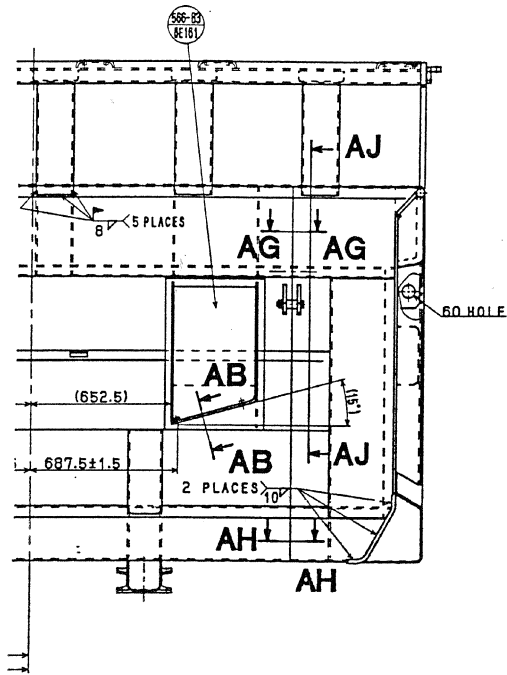


Table 1

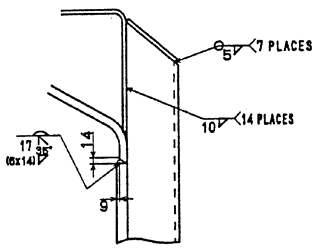
	CO ₂ gas arc welding	Arc welding	Remarks
Welding position	Flat (F)	Flat, vertical (V)	(1) Do not apply CO ₂ gas welding when wind velocity is higher than 2 – 3 (m/sec). (2) Remove moisture, dust, and paint from surfaces to be welded.
Welding rod	JIS Z3312YGW11 or equivalent φ1.2, 1.6	JIS Z3212D5016 or equivalent φ4.0, 5.0	
Welding current (A)	320 – 350, 380 – 420	130– 160, 220– 260	
Preheating/Postheating	Unnecessary	Unnecessary	
Gas shielding rate (ℓ/min)	25 – 35	—	

Order of work	Work procedure
<p>6. Turn over the body. Install a sling to the body hinge holes of the bottom plate to turn over the body.</p> <p>Keeping the body in the position shown at left (lifted with a crane), weld the inside of the front plate. Then, lower the body and weld the inside of the bottom plate.</p> 	<ul style="list-style-type: none"> • Put wood blocks under the front and rear parts of the bottom plate. • Connect the ground cable for welding to the body securely. • Apply CO2 gas shielded arc welding as standard. If it is difficult to apply, however, apply arc welding. • Drying time of arc welding rod <ul style="list-style-type: none"> (1) Temperature: 150 – 200°C (2) Time: 120 minutes

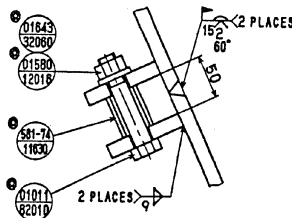
Process drawing



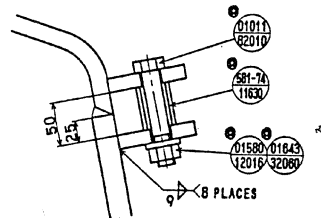
AA-AA (1:5)



AE-AE (1:5)



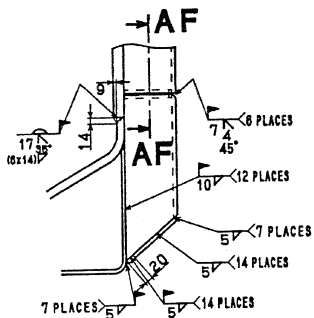
AK-AK (1:2.5)



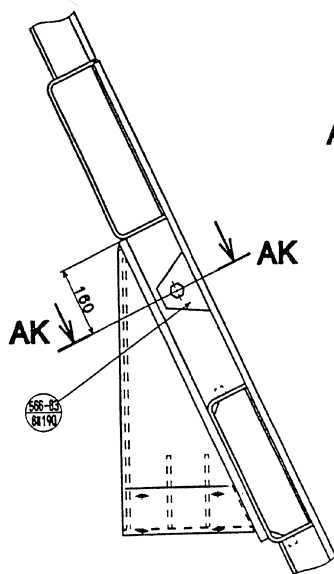
AL-AL (1:2.5)



AM-AM (1:2.5)



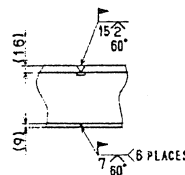
AD-AD (1:5)



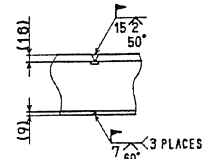
AJ-AJ (1:5)



AF-AF (1:2.5)



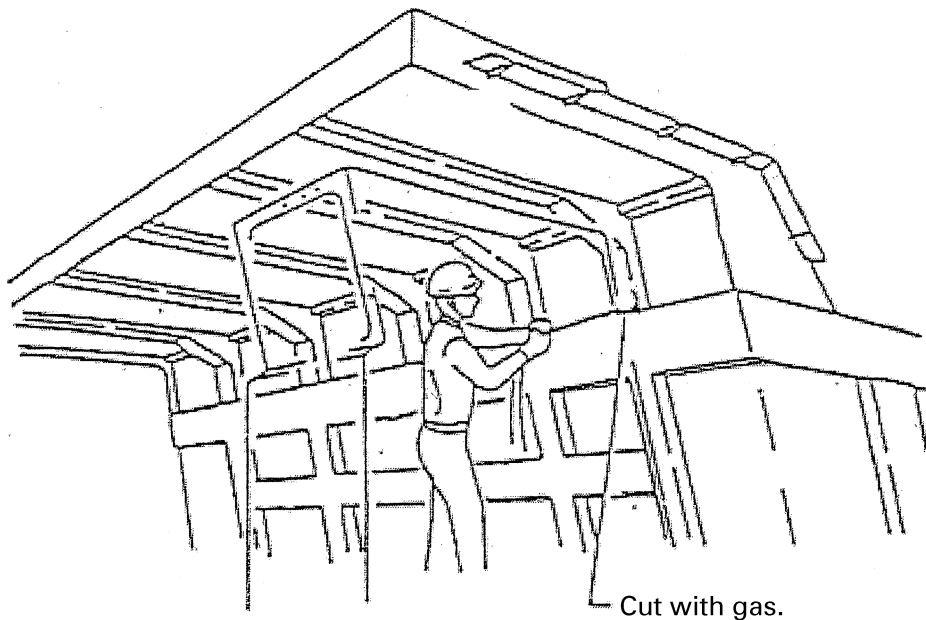
AG-AG (1:5)



AH-AH (1:5)

WELDING BODY PROTECTOR

Process drawing



Position body side plate and protector so that their tops will be in parallel with each other.

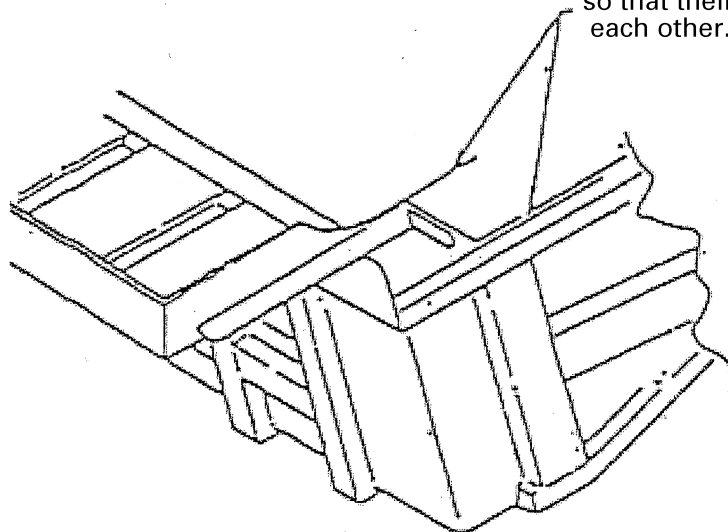
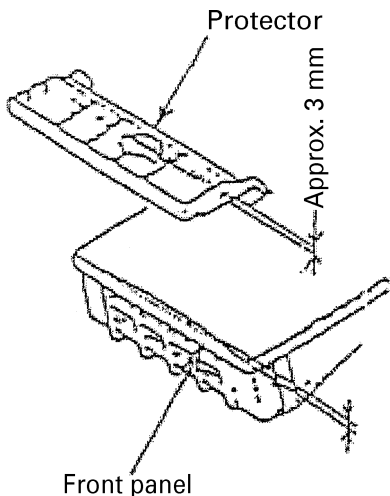
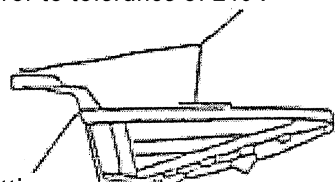
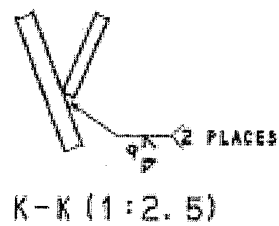
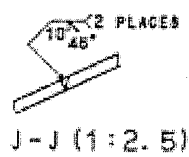
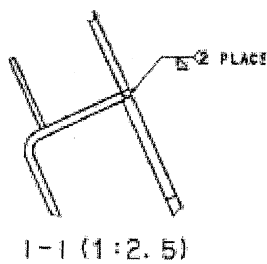
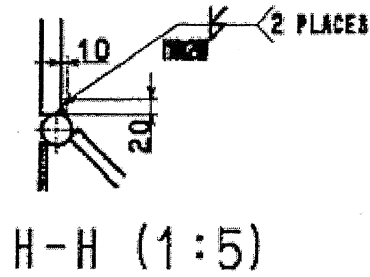
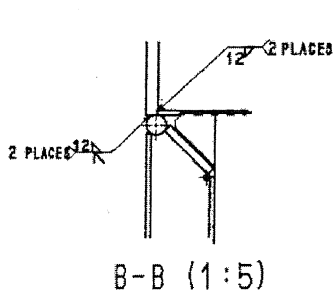
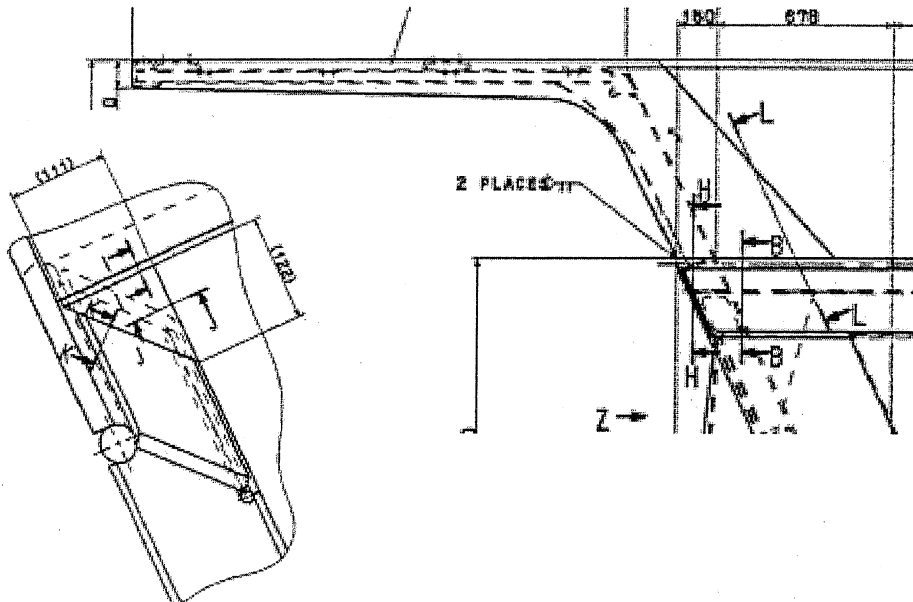
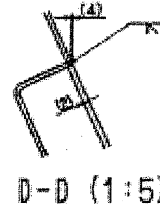
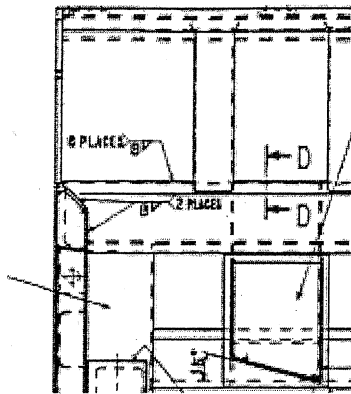


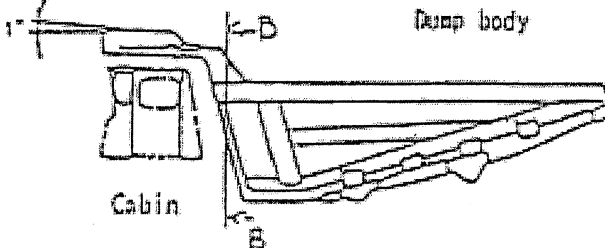
Table 1

	CO ₂ gas arc welding	Arc welding	Remarks
Welding position	Flat (F)	Flat, vertical (V)	(1) Do not apply CO ₂ gas welding when wind velocity is higher than 2 – 3 (m/sec). (2) Remove moisture, dust, and paint from surfaces to be welded.
Welding rod	JIS Z3312YGW11 or equivalent φ1.2, 1.6	JIS Z3212D5016 or equivalent φ4.0, 5.0	
Welding current (A)	320 – 350, 380 – 420	130– 160, 220– 260	
Preheating/Postheating	Unnecessary	Unnecessary	
Gas shielding rate (ℓ/min)	25 – 35	—	

Order of work	Work procedure
<p>1. Weld the protector.</p> <p>(1) Place the protector on the tops of the side plate and front plate with a crane.</p> <ul style="list-style-type: none"> • Capacity of crane: Min. 2 tons • Lift of crane: Min. 7 m • Breaking strength of wire rope, chain, chain block: Min. 2 tons <p>(2) Position the protector so that the end of the body side plate will be in parallel with the protector side plate.</p> <p>(3) Cut the front and side plates of the protector with gas so that the top of the body side plate and will be in parallel with the top of the protector.</p> <p>Note: Since the protector and front plate are distorted by welding as shown below, the front and side plates of the protector must be cut with gas so that the clearance will be minimized at the time of welding. (Reduce the clearance to below 3 mm.)</p> <p>(4) After positioning, tack-weld the front panel of the protector.</p> <div style="text-align: center;">  </div> <p>Check parallelism with level and reduce error to tolerance of $\pm 10'$.</p> <div style="text-align: center;">  </div> <p>Determine gas-cutting dimensions with actual parts.</p>	<ul style="list-style-type: none"> • If any plate is used to secure the protector, remove it with a gas cutting device or a grinder.

Process drawing



Order of work	Work procedure
<p>(5) Weld the protector. (See page 52, 53.)</p> <ul style="list-style-type: none"> • Welding order: Weld the side plate first. • Welding symbol: Shown in the welding instruction drawing. • Welding condition: Shown in welding condition table on the previous page. • Perform welding according to KES04.343, General, 2nd Grade. <p>(6) Finishing Remove the spatters and finish the beads with a grinder. Cut the hanging plate welded to the top of the body with gas and finish the marks of weld with a grinder.</p> <p>(7) Check the welded parts for defects.</p> <ol style="list-style-type: none"> ① Crack of weld bead (visual check) ② Undercut, overlap, and spatter ③ Leg length of weld for shortage (Insufficient leg length is not permitted.) <p>(8) After cooling, paint the welded parts.</p> <ol style="list-style-type: none"> ① Mix the base and hardener of the paint well at the ratio of 5:1 as specified. ② After painting, clean the paint spray gun with paint thinner before the paint is hardened. <p>[Undercoat paint] RETAN GP primer RETAN GP hardener RETAN GP thinner</p> <p>[Top coat paint] NAX MIGHTYLAC II KB natural yellow NAX MIGHTYLAC II KB hardener NAX MIGHTYLAC II KB thinner</p>	<ul style="list-style-type: none"> • Apply CO₂ gas shielded arc welding as standard. If it is difficult to apply, however, apply arc welding. • Drying time of arc welding rod <ol style="list-style-type: none"> (1) Temperature: 150 – 200°C (2) Time: 120 minutes <div style="text-align: center;">  </div> <ul style="list-style-type: none"> • Put on mask, goggles, gloves, etc. to protect yourself from paint mist.

No.	Inspection item	Judgment procedure and standards	Check	Maintenance	Remarks
Check oil and water levels.					
1	Engine oil level (Check with engine stopped.)	Level must be between (H) and (H - 10 mm).			
2	Transmission oil level (Check with engine at low idling.)	Level must be between (H) and (center between H and L).			
3	Hydraulic oil level	Level must be within inspection window range.			
Turn switch ON. (Basic items: Check lights and buzzers.)					
4	Function of horn	Sound must be proper in volume and must not have beat noise. (Sensory check)			
5	Function of backup buzzer	Sound must be proper in volume and must not have beat noise. (Sensory check)			
6	Function of clearance lamp	When light switch is turned ON (1st, 2nd stage), front right and left clearance lamps and rear right, center, and left clearance lamps (3 lamps) must light up.			
7	Check of headlamps	When light switch is turned ON (2nd stage), 2 headlamps (right and left) must light up.			
8	Check of high beam (Function of dimmer switch)	When dimmer switch is operated with headlamps ON, lamps must change (2 lamps ← → 4 lamps). (Irradiating direction must change.)			
9	Function of turn signal lamps	When turn signal lever is operated, front and rear turn signal lamps must flash on correct side.			
10	Function of hazard lamp	When hazard lamp switch is turned to ON, right and left turn signal lamps and pilot (arrow) lamp inside operator's cab must flash. In this case, if key switch is turned to OFF, pilot lamp must not flash.			
11	Function of backup lamps	When transmission shift lever is set to at R, backup lamps must light up.			
12	Function of brake lamps	When brake pedal is depressed, 3 red rear brake lamps (right, center, and left) must light up.			
		When retarder lever is pulled, 2 red rear brake lamps (right and left) must light up. Center lamp must not light up at this time.			
		When light switch is ON and brake is turned ON, brightness of brake lamp must change (become brighter).			
Start engine.					
13	Abnormal noise from engine	No abnormal noise must be generated. (Sensory check)			
14	Exhaust gas leakage	Exhaust gas must not leak from exhaust shutter, etc.			
15	Operating effort of dump lever (Sensory check)	Check that operation is correct (FLOAT – RAISE: 58.8 N{6.0 kg}, FLOAT – LOWER: 68.6 N{7.0 kg}). Lever must not be hitched during operation.			
16	Function of dump lever	① Check that order of operation from top is RAISE → HOLD → FLOAT → LOWER.			
		② Check that dump body can be stopped at desired position when lever is at HOLD.			
		③ Operate lever to RAISE position and check that it returns to HOLD when released (When positioner is not installed).			
		④ Operate lever to LOWER position and check that it returns to FLOAT when released.			
		⑤ Pressure must be adjusted at RAISE and LOWER positions.			

No.	Inspection item	Judgment procedure and standards	Check	Maintenance	Remarks
17	Shock made when dump body is lower to end	When dump body is seated, unpleasant shock must not be made. (Sensory check)			
18	Function of body positioner (Overseas OP.)	Operate lever to RAISE position and check that it does not return to HOLD when released.			
		Operate lever to RAISE position to raise dump body and check that it automatically returns to HOLD at a point 50 – 100 mm before end of H/T cylinder stroke.			
19	Alignment of dump body on right and left	When dump body is raised fully, it must not sway to right or left. (Difference in dimension between right and left hoist cylinders: Max. 7 mm)			
		When dump body is lower fully, it must come in contact with mount evenly. (Contact area must be at least 80%.)			
		When dump body is lower fully, it must come in contact with vibration stopper evenly.			
20	Body lifting speed (Oil temperature: 80°C)	Engine speed: Rated speed (2000rpm) Standard common to HD325 and 405: 10.5 ± 1.5 sec, Measured value: () sec			
21	Body lowering speed (Lever at FLOAT, Oil temperature: 50 – 70°C)	Engine speed: Low idling speed (650rpm) Standard (HD325): 11.0±1.5 sec, Measured value:()sec Standard (HD405): 15.0±1.5 sec, Measured value:()sec			
22	Function of dump body operation caution lamp	Must light up when dump lever is set to any position other than FLOAT or while dump body is not seated. * Centralized warning lamp and warning buzzer must not operate.			
23	Hydraulic drift of dump body	Hydraulic drift in 5 minutes must be 85 mm or less. (From point where cylinder No. 2 is extended by 100 mm), Measured value: () mm			
24	Function of lifting dump body with emergency starting motor	Stop engine and check that dump body can be lifted with emergency steering motor. * Do not operate emergency steering motor for more than 90 seconds continuously.			
Stop truck on level ground and measure.					
25	Length of suspension cylinder (Front) * Measure with dump body empty.	Length must be shorter than dimension A. Dimension A: 233 (Position of label) ± 10 mm Measured value: Left () mm, Right () mm			
26	Length of suspension cylinder (Rear) * Measure with dump body empty.	Length must be shorter than dimension A. Dimension A: 191 ± 10 mm Measured value: Left () mm, Right () mm			
27	Automatic suspension control function (Opt.) Measure with dump body empty.	① When dump lever is set to any position other than FLOAT, display must change from [Soft] to [Hard].			
		② When service brake or emergency brake is turned ON, display must change from [Soft] to [Medium].			
		③ Display must show [Soft] in all cases other than ① and ② above.			
Inspect each part.					
28	Function of safety pin	Safety pin must be inserted without obstruction in right and left stopper holes.			
29	Storage function of safety pin	Safety pin must be removed from, installed to, and locked at storage position securely.			
30	Installation of dump control linkage	Locknut must not be loosened.			
		Boots (Rubber covers) of cable must not be twisted. (At right side of cab, hoist valve, and positioner)			

No.	Inspection item	Judgment procedure and standards	Check	Maintenance	Remarks
31	Front axle (Right)	Mounting bolts (Mounting pins) must free from looseness.			
32	Rear support light cover (Right disconnecting point)	Mounting bolts must be free from looseness.			
33	Inspection around engine	No oil and water leakage.			
34	Inspection around transmission	No oil leakage.			
35	Inspection of hydraulic oil system (tank, cylinder, pump, piping)	No oil leakage.			
36	Tire inflation pressure (When dump body is empty) 18.00-33-32PR: 564±9.8kPa {5.75±0.1kg/cm ² } 18.00-33-28PR: 491±9.8kPa {5±0.1kg/cm ² } 18.00-R33: 687±9.8kPa {7±0.1kg/cm ² }	Standard: Shown at left Measured value: Front left (kPa { kg/cm ² }), Front right (kPa { kg/cm ² })			
		Standard: Shown at left Measured value: Rear left inside (kPa { kg/cm ² }), Rear right inside (kPa { kg/cm ² })			
		Standard: Shown at left Measured value: Rear left outside (kPa { kg/cm ² }), Rear right outside (kPa { kg/cm ² })			
37	Tightness of tire hub nuts Tightening torque: 1079 – 1323 Nm{110 – 135kgm} (Target: 1206 Nm{123kgm}) * When nothing is applied to threads.	① Front left: Retighten.			
		② Front right: Retighten.			
		③ Rear left: Retighten.			
		④ Rear right: Retighten.			
38	Flaw of tires	Tires must be free from flaw and tear.			
39	Hoist cylinders (Both sides)	Plated surfaces must be free from rust, harmful flaw, spatter, paint, etc.			

