



K.B.O

Assembly instructions
Caterpillar DP/GP
20-35 N2

Mitsubishi FG/FD
20-35 N2 Grendia

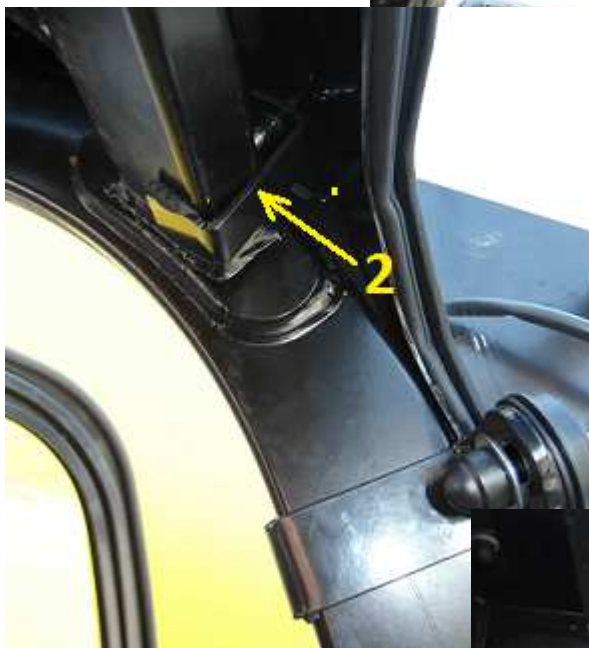


I.ROOF

1. Dismount rear lamps.

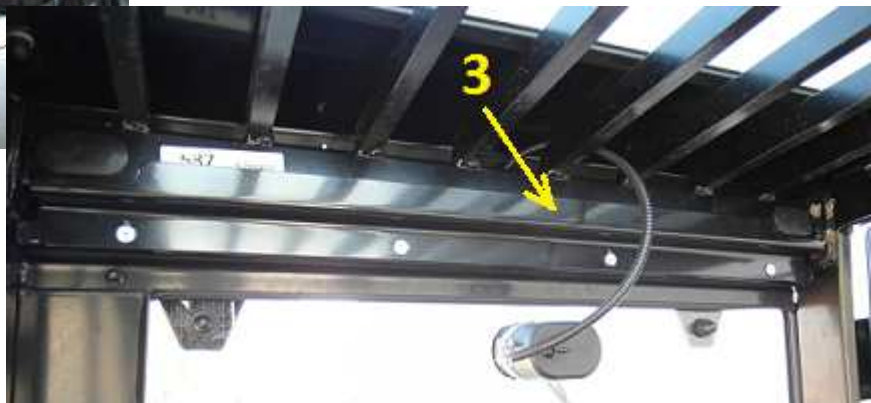
2. Put (locate) roof panel in such a way that it covers roof and rear OHG evenly.

3. Assembly upper part of roof to upper profiles of OHG using holders (1).



4. Assembly front part of roof to front upper profile of OHG using channel bar (2).

5. Put (locate) rear upper beam (3) to inner part of rear upper profile of OHG and assembly it to roof using M6x20 screws then.



6. Set blind river nuts M6 in holes to assembly holders of lamp (4), and assembly these holders.

7. Set blind rivet nuts M5 in holes of holders of lamps (point 6) and assembly dismantled lamps then (5).



II. FRONT PANEL

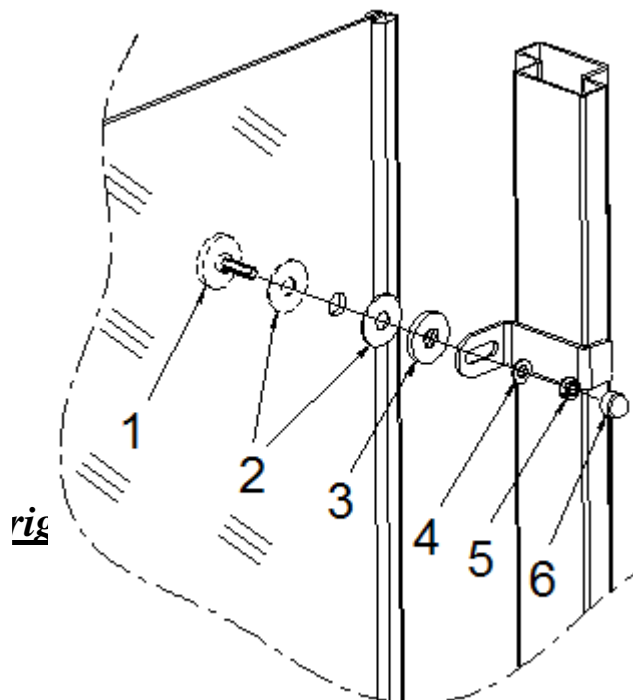
1. Loosen screws (1). Tuck notches of front lower beam under loose screws in such way so lower part of this beam adheres to front part of cockpit. Screw these screws (1) down.



3. Prepare assembly set that is used for front glass (drawing below). Put front glass/pane with assembly holders (2) to front profiles of OHG in such way so this glass is directly and evenly adhered to front part of roof and lower beam. Then assembly holders to glass using M8x25 screws.

Complete assembly set for front glass:

- 1 – M8x25 screw
- 2 – rubber washer
- 3 – spacer
- 4 – washer Ø8
- 5 – self-locking nut M8
- 6 – hex cap SW13





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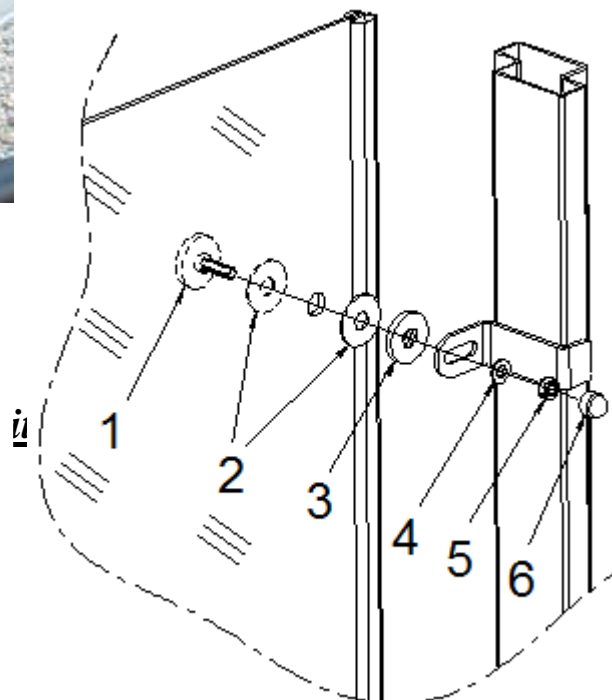
1. Put (locate) front upper beam (1) to outer upper part of profiles of OHG in such a way so this beam adheres to front part of roof evenly. Assembly this beam to roof using self drilling $\text{Ø}6,3 \times 25$ screws.



3. Prepare assembly set that is used for front glass (drawing below). Put front glass/pane with assembly holders (2) to front profiles of OHG in such way so this glass is adhered to front upper and lower beam directly and evenly. Then assembly holders to glass using M8x25 screws.

Complete assembly set for front glass:

- 1 – M8x25 screw
- 2 – rubber washer
- 3 – spacer
- 4 – washer $\text{Ø}8$
- 5 – self-locking nut M8
- 6 – hex cap SW13

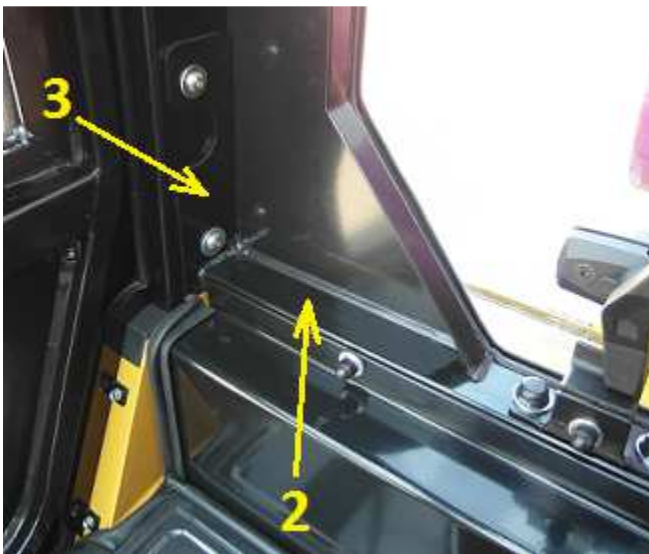




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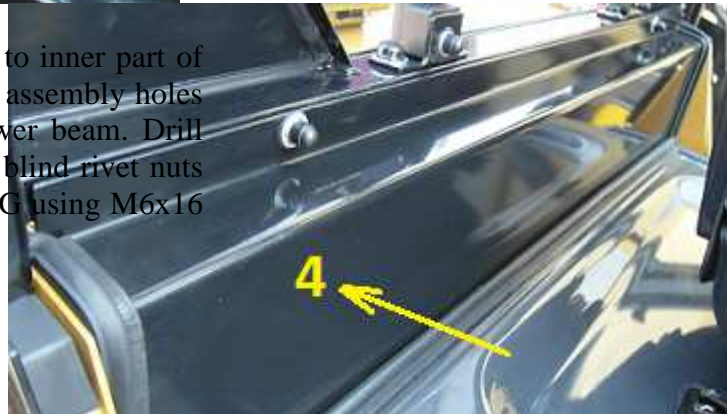
1. Put (locate) rear upright beam (1) to rear right part of OHG in such way so upper part of this rear beam adheres to rear part of roof evenly but side of this beam is in cavity of rear right profile of OHG.

2. Assembly right side of rear upright beam to OHG using self drilling $\text{Ø}6,3 \times 25$ screws. Assembly upper part of rear upright beam to rear part of roof using M6x16 screw.



3. Put (locate) rear lower bar (2) to inner lower part of rear upright beam (1). Mark places for assembly holes on OHG looking at (taking) sides of rear lower bar. Drill holes $\text{Ø}11$ in marked places and set blind rivet nuts M8 there. Assembly this bar to OHG using M8x20 screws.

4. Put (locate) rear lower beam (4) to inner part of rear lower bar (2). Mark places for assembly holes on bar looking at (taking) rear lower beam. Drill holes $\text{Ø}9$ in marked places and set blind rivet nuts M6 there. Assembly this bar to OHG using M6x16 screws

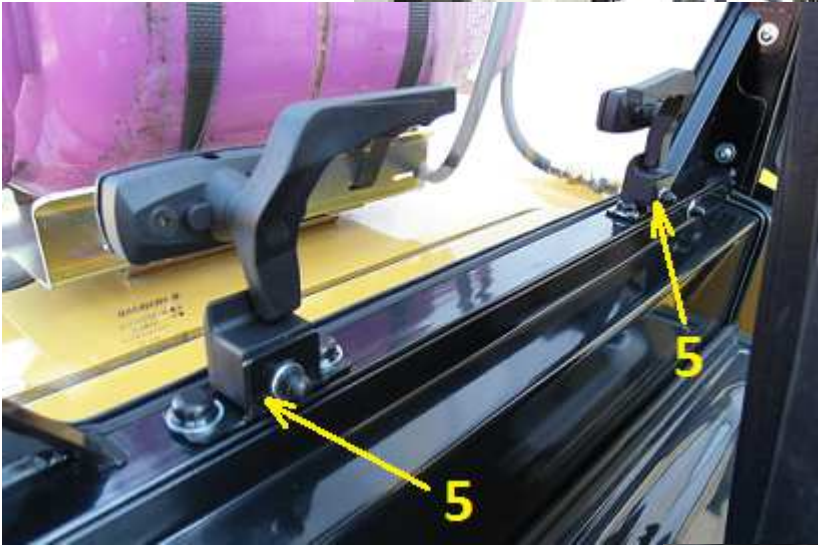


5. Assembly lower part of rear upright beam (1) to rear lower bar using self drilling $\text{Ø}6,3 \times 25$ screws.



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6. Assembly glass with hinges to rear part of roof using M8x20 screws.



7. Push rear glass to rear lower beam (2) and mark places for assembly holes looking at (taking) latch of rear glass (5).

8. Drill holes $\text{Ø}11$ in marked places and set blind rivet nuts M8 there. Assembly latch of rear glass using M8x20 screws.

9. Assembly gas spring to holder next to glass. Put holder (6) onto the other end of this gas spring.

10. Put (locate) holder of gas spring (6) to inner part of rear left profile of OHG. Mark places for assembly holes. Drill holes $\text{Ø}11$ and set blind rivet nuts M8 there. Assembly holder of gas spring to OHG using M8x20 screws. This holder should be assembled in such way so cover of engine can be opened/lifted when glass is opened.





V. REAR PANEL vers. 2 (using original holes on OHG)

1. Assembly rear lower bar (1) to inner lower part of rear profiles of OHG using M8x20 screws in place where original holes are.



2. Put (locate) rear upright beam (2) to rear right part of OHG in such way so upper part of rear upright beam adheres to rear part of roof and side part of beam is in cavity of rear right profile of OHG.

3. Assembly right part of rear upright beam to OHG using self drilling $\text{Ø}6,3 \times 25$ screws. Assembly lower part of rear upright beam to rear lower bar using self drilling $\text{Ø}6,3 \times 25$ screws. Assembly upper part of rear upright beam to rear part of roof using M6x16 screws

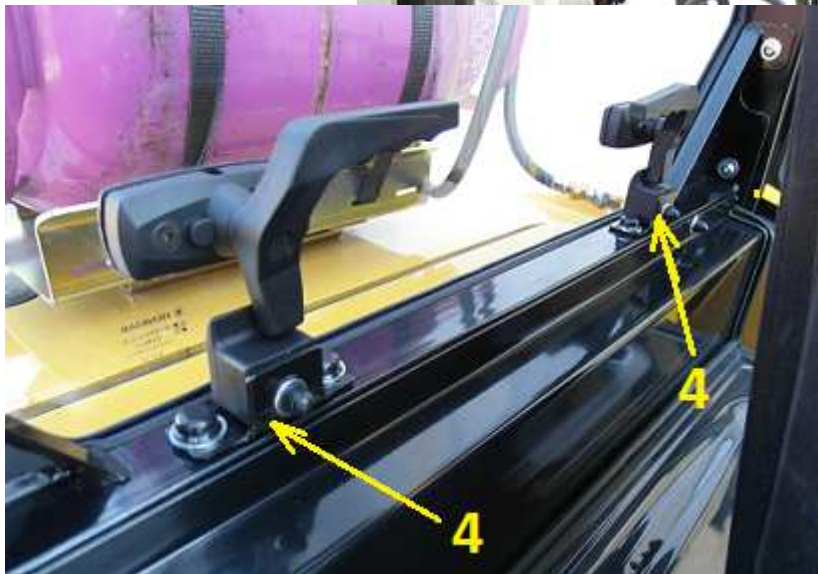


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4. Put (locate) rear lower beam (3) to inner part of rear lower bar (1). Mark places for assembly holes on bar looking at (taking) rear lower beam. Drill holes $\text{\O}9$ in marked places and set blind rivet nuts M6 there. Assembly beam to bar of OHG using M6x16 screws.



5. Assembly glass with hinges to rear part of roof using M8x20 screws.



6. Push rear glass to rear lower beam (1) and mark places for assembly holes looking at (taking) latch of rear glass (4).

7. Drill holes $\text{\O}11$ in marked places and set blind rivet nuts M8 there. Assembly latch of rear glass using M8x20 screws.



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8. Assembly gas spring to holder next to glass. Put holder (5) onto the other end of this gas spring.

9. Put (locate) holder of gas spring (5) to inner part of rear left profile of OHG. Mark places for assembly holes. Drill holes $\text{Ø}11$ and set blind rivet nuts M8 there. Assembly holder of gas spring to OHG using M8x20 screws. This holder should be assembled in such way so cover of engine can be opened/lifted when glass is opened.





VI. DOORS vers. 1 (marking assembly holes without tool)

1. Put and set (locate) door with hinges (1) so distance between inner part of cavity of OHG and edge of door (seal) is the same in all places.

2. Mark places for holes for hinges (1) on OHG.

3. Drill holes $\varnothing 11$ and set blind rivet nuts M8 there. Assembly hinges to OHG using M8x30 screws temporarily.

4. Put (locate) door once again (point 1) and if distance between inner part of cavity of OHG and edge of door (seal) is the same in all places screw hinges finally.



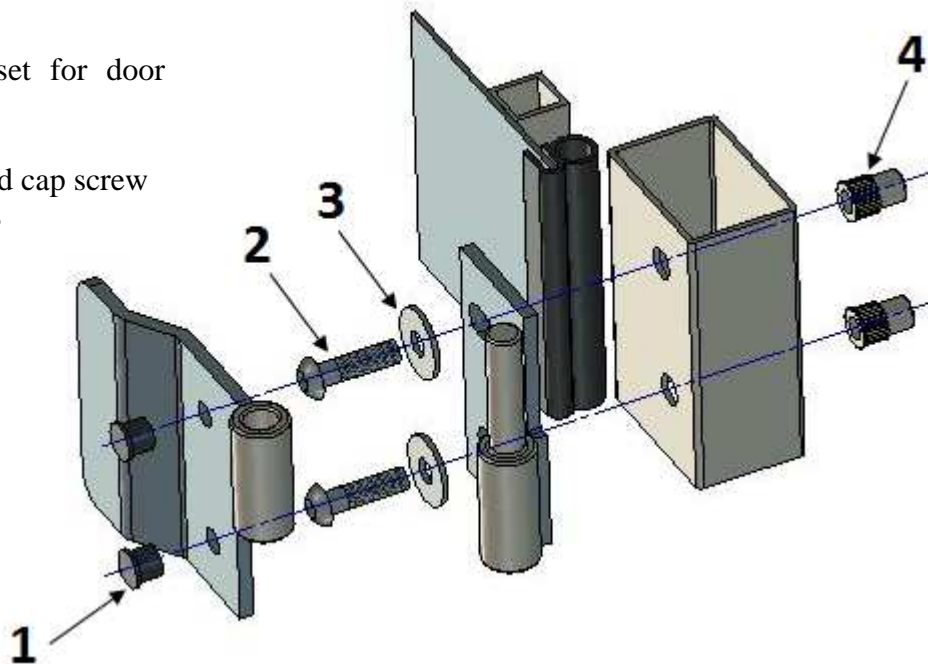
Complete assembly set for door hinge:

1 – mask cap

2 – M8x30 socket head cap screw

3 – washer extend $\varnothing 8$

4 – blind rivet nut M8



5. Prepare assembly set that is used for gas spring (drawing below). Assembly gas spring to ball pin by OHG of door. Put holder (2) onto the other end of this gas spring.



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6. On OHG mark so called „dead” position of gas spring so this gas spring can not change its position when doors are in move. When this position is marked then 7 cm in back direction of part of forklift should be taken.

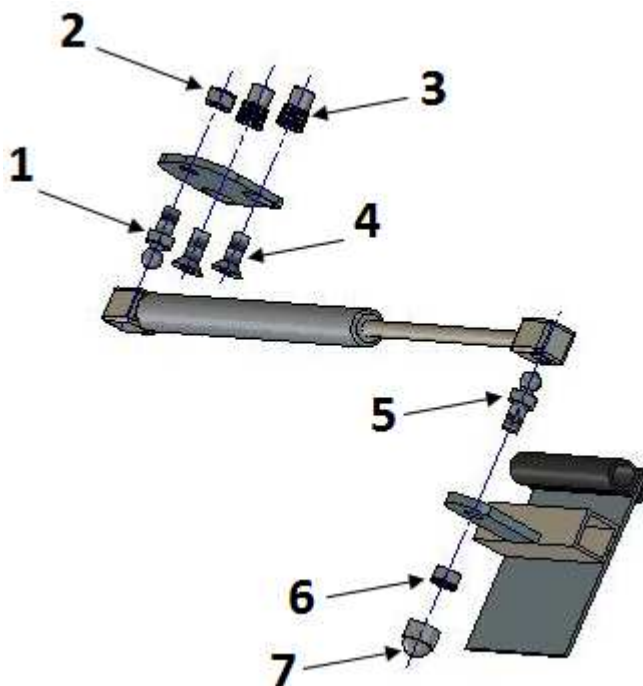


7. Mark places for assembly holes on OHG using holder of gas spring. Drill holes $\text{Ø}11$ in marked places and put rivet nuts M8 there.

8. Assembly this holder to OHG using M8x20 screws.

Complete assembly set for gas spring:

- 1 – ball pin
- 2 – self-locking nut M8
- 3 – blind rivet nut M8
- 4 – M8x20 socket head cap screw
- 5 – ball pin
- 6 – self-locking nut M8
- 7 – hex cap SW13



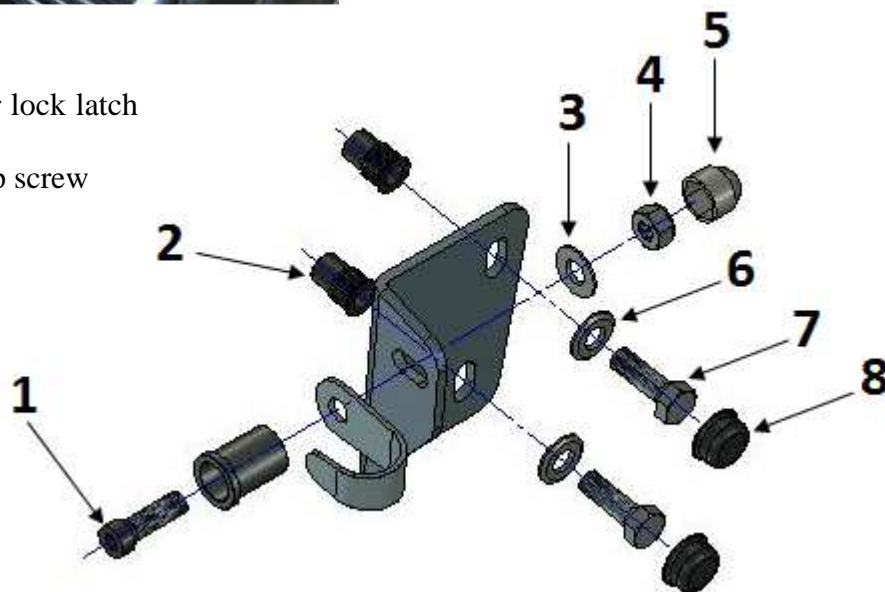
9. Put (locate) angle bar of door (3) to OHG in such way so seal of edge of door adheres to this angle bar evenly (3) when door is closed. Assembly angle bar using self drilling screws.



10. When door is closed mark places for assembly hole of lock latch holder (4) on front part of OHG. Drill holes $\text{Ø}11$ in marked places and set blind rivet nuts M8. Assemble lock latch holder to OHG using M8x20 screws.

Complete assembly set for lock latch holder:

- 1 – M8x30 socket head cap screw
- 2 – blind rivet nut M8
- 3 – washer $\text{Ø}8$
- 4 – self-locking nut M8
- 5 – hex cap SW13
- 6 – washer $\text{Ø}8$
- 7 – M8x20 screw
- 8 – round cap SW13





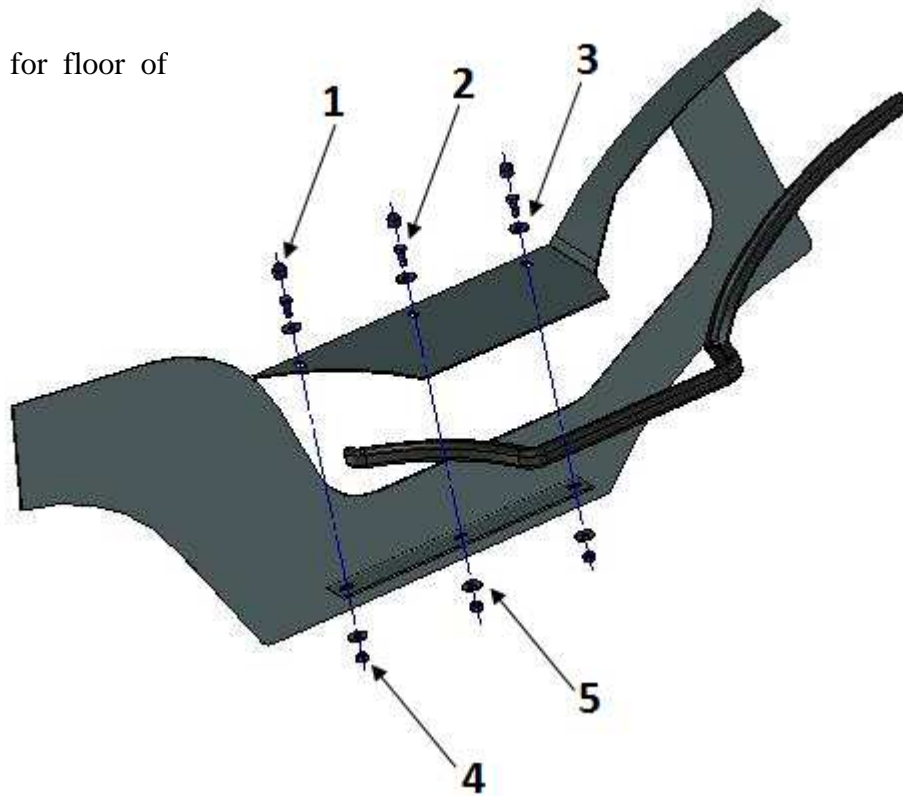
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11. If there is any gap between floor of door and floor of forklift when door is closed, floor of door must be regulated by pushing it on bean-shaped holes to get rid of this gap.

Complete assembly set for floor of door:

- 1 – hex cap SW10
- 2 – M6x16 screw
- 3 – washer extend Ø6
- 4 – self-locking nut M6
- 5 – washer extend Ø6



VII. DOORS vers. 2 (using original holes of OHG)



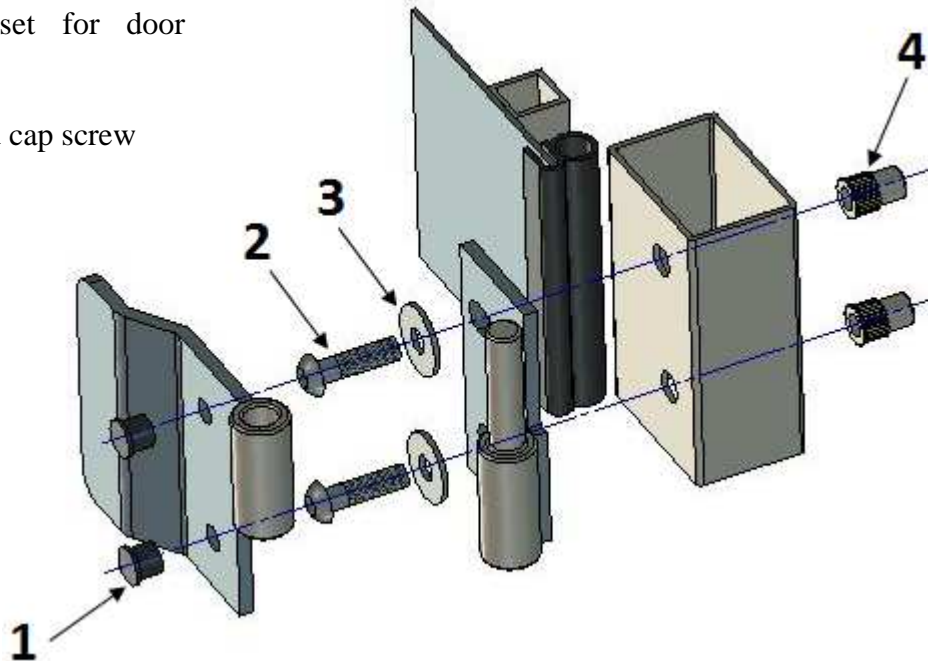
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1. Assembly hinges (1) to outer part of side profiles of OHG using M8x30 screws in place where original holes are.



Complete assembly set for door hinge:

- 1 – mask cap
- 2 – M8x30 socket head cap screw
- 3 – washer extend Ø8
- 4 – blind rivet nut M8



2. Prepare assembly set that is used for gas spring (drawing below). Assembly gas spring to ball pin by OHG of door. Put holder (2) onto the other end of this gas spring



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3. On OHG mark so called „dead” position of gas spring so this gas spring can not change its position when doors are in move. When this position is marked then 7 cm in back direction of part of forklift should be taken.

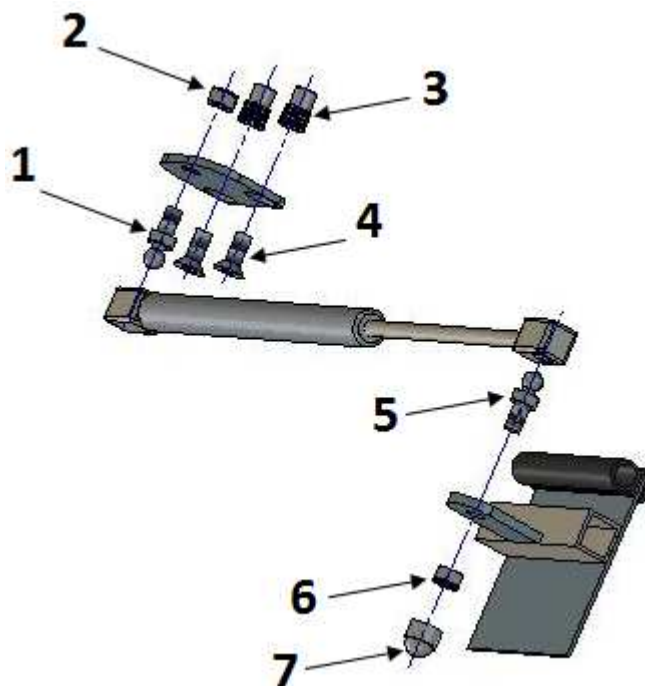


4. Mark places for assembly holes on OHG using holder of gas spring. Drill holes $\text{\O}11$ in marked places and put rivet nuts M8 there.

5. Assembly this holder to OHG using M8x20 screws.

Complete assembly set for gas spring:

- 1 – ball pin
- 2 – self-locking nut M8
- 3 – blind rivet nut M8
- 4 – M8x20 socket head cap screw
- 5 – ball pin
- 6 – self-locking nut M8
- 7 – hex cap SW13



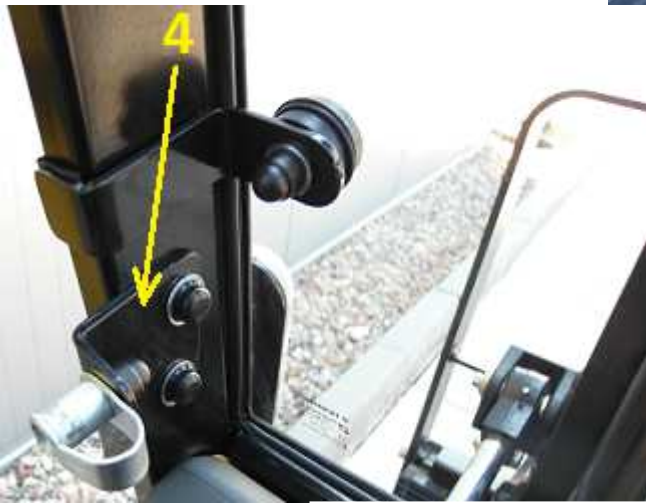


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6. Put (locate) angle bar of door (3) to OHG in such way so seal edge of door adheres to this angle bar (3) when door is closed evenly. Assembly angle bar using self drilling screws.

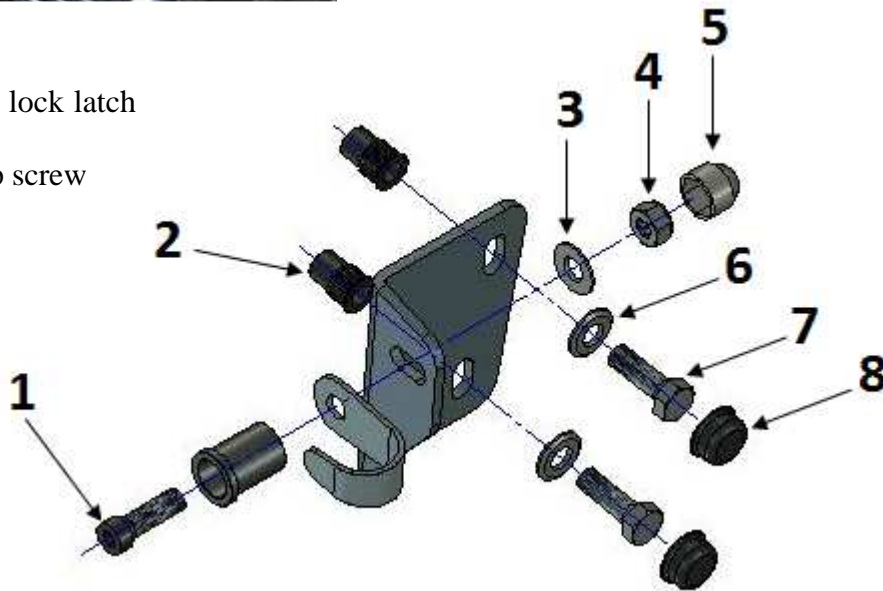


7. Assembly latch of lock (4) to inner part of side profiles using M8x20 screws in place where original holes are.



Complete assembly set for lock latch holder:

- 1 – M8x30 socket head cap screw
- 2 – blind rivet nut M8
- 3 – washer Ø8
- 4 – self-locking nut M8
- 5 – hex cap SW13
- 6 – washer Ø8
- 7 – M8x20 screw
- 8 – round cap SW13





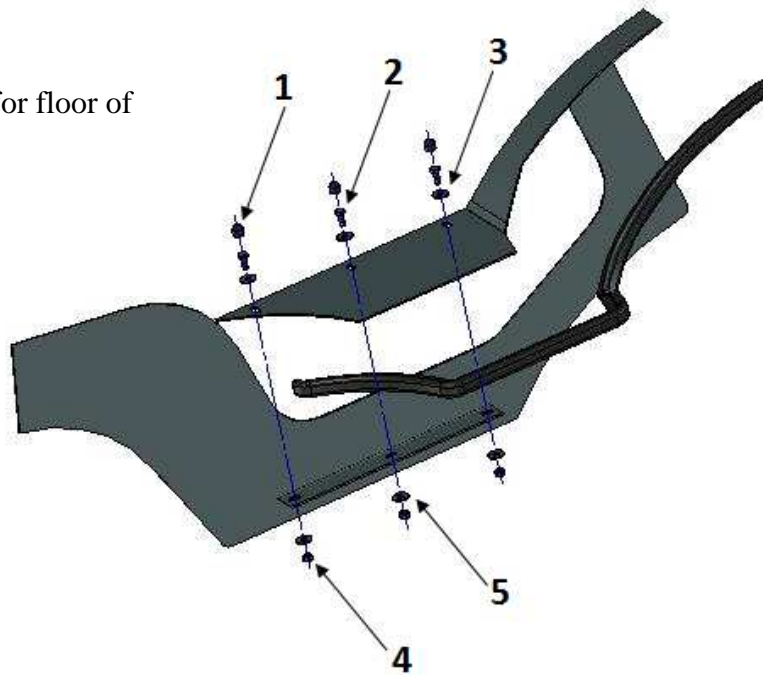
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8. If there is any gap between floor of door and floor of forklift when door is closed, floor of door must be regulated by pushing it on bean-shaped holes to get rid of this gap.

Complete assembly set for floor of door:

- 1 – hex cap SW10
- 2 – M6x16 screw
- 3 – washer extend Ø6
- 4 – self-locking nut M6
- 5 – washer extend Ø6



VIII. DOORS vers. 3 (using assembly tool)





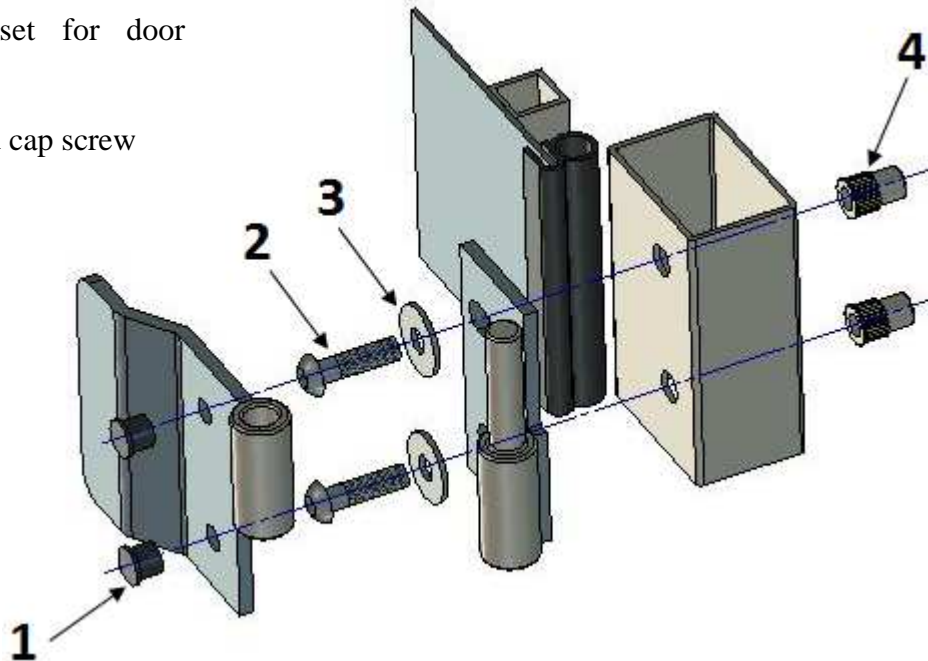
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1. Put special tool for marking assembly holes to outer and front side of rear profile of OHG and push this tool to inner rear part of upper profile (1). Mark assembly holes by hitting in bolts (2). Drill holes $\varnothing 11$ in marked places and set blind rivet nuts M8 there. Assembly hinges (3) using M8x25 screws.



Complete assembly set for door hinge:

- 1 – mask cap
- 2 – M8x30 socket head cap screw
- 3 – washer extend $\varnothing 8$
- 4 – blind rivet nut M8



2. Put special tool for marking assembly holes to inner side of upper profile of OHG and push this tool to upper part of rear profile (4).

REMARK: this tool should be pushed to inner in maximum way.

Mark assembly holes for holder of gas spring by hitting in bolts $\varnothing 18$ sur **35** (5). Drill holes $\varnothing 11$ in marked places and set blind rivet nuts M8 there. Assembly holder (6)

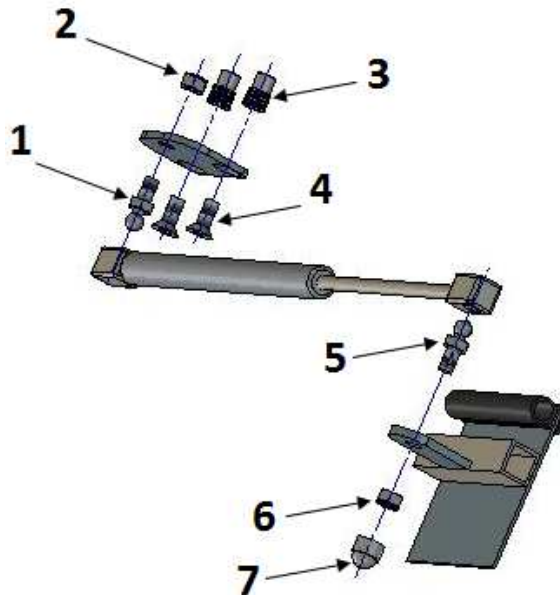


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Complete assembly set for gas spring:

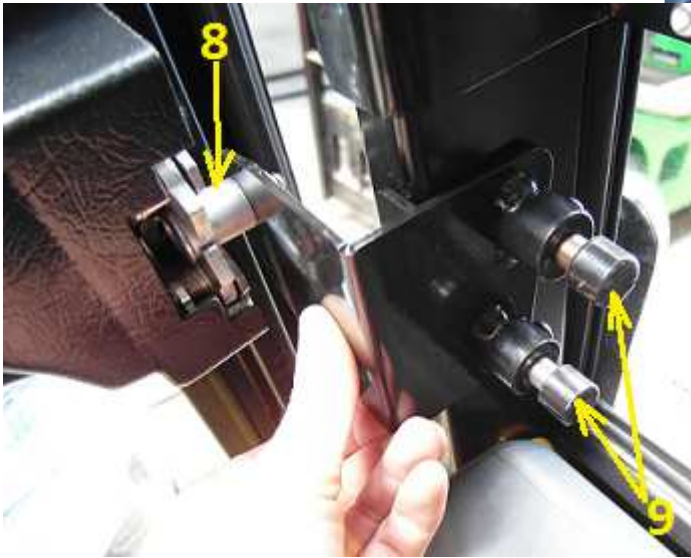
- 1 – ball pin
- 2 – self-locking nut M8
- 3 – blind rivet nut M8
- 4 – M8x20 socket head cap screw
- 5 – ball pin
- 6 – self-locking nut M8
- 7 – hex cap SW13





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3. Put (locate) angle bar of door (7) to OHG in such way so seal of edge of door adheres to this angle bar (3) when door is closed evenly. Assembly angle bar using self drilling screws.



4. Close lock of door on special sleeve/faucet that is on this special tool (8). Put door with this special tool to front profile of forklift frame in such way so this tool is adhered to OHG evenly. Mark assembly holes by hitting in bolts (9). Drill holes $\varnothing 11$ in these places and then set blind rivet nuts M8 there. Assembly latch of lock using M8x20 screws (10).

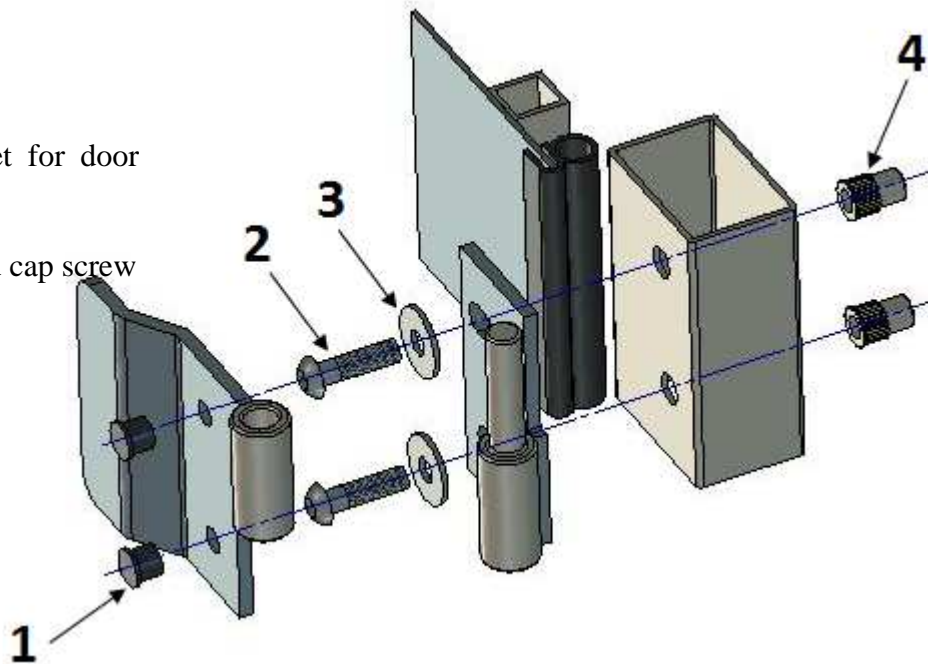




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Complete assembly set for door hinge:

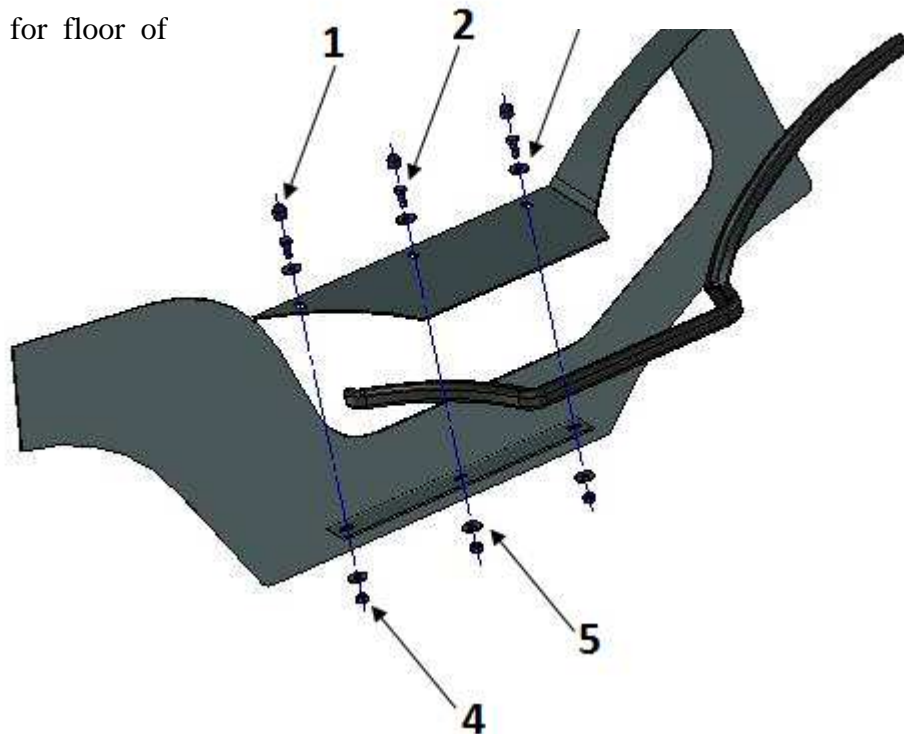
- 1 – mask cap
- 2 – M8x30 socket head cap screw
- 3 – washer extend Ø8
- 4 – blind rivet nut M8



5. If there is any gap between floor of door and floor of forklift when door is closed, floor of door must be regulated by pushing it on bean-shaped holes to get rid of this gap.

Complete assembly set for floor of door:

- 1 – hex cap SW10
- 2 – M6x16 screw
- 3 – washer extend Ø6
- 4 – self-locking nut M6
- 5 – washer extend Ø6





IX. 2-section DOORS

2-section doors can be assembled in 3 ways: with or without assembly tools and by using original holes.

1. Put and set (locate) door with hinges (1) so distance is the same in all places between inner part of cavity of OHG and edge of door (seal).

2. Mark places for holes for hinges (1) on OHG.

3. Drill holes $\text{\O}11$ and set blind rivet nuts M8 in there. Assembly hinges (1) to OHG using M8x30 screws temporarily.

4. Put (locate) door once again (point 1) and if distance between inner part of cavity of OHG and edge of door (seal) is the same in all places screw hinges finally.



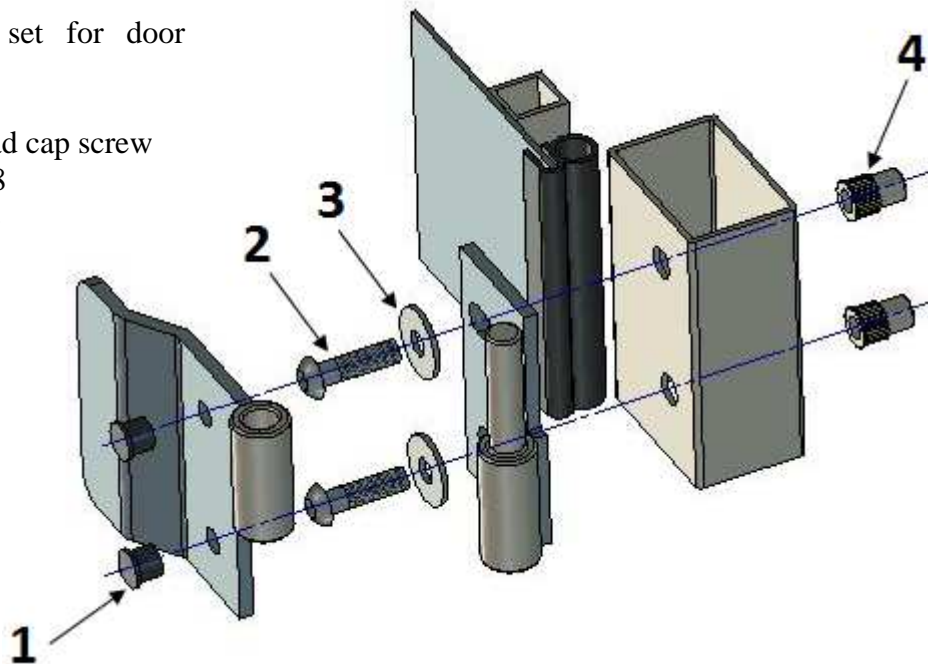
Complete assembly set for door hinge:

1 – mask cap

2 – M8x30 socket head cap screw

3 – washer extend $\text{\O}8$

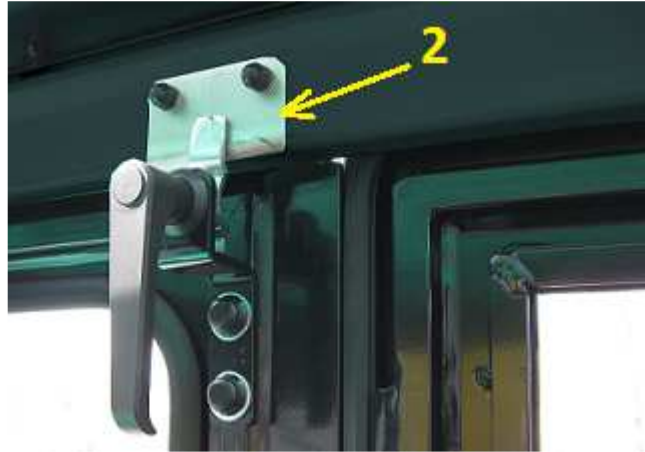
4 – blind rivet nut M8





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5. When door is closed mark places for assembly holes on upper profile looking at metal plate of door latch lock (2). Drill holes $\varnothing 9$ in marked places and set blind rivet nuts M6 there. Assembly metal plate of door latch lock to OHG using M6x20 screws.



6. When door is closed mark places for assembly holes on cover of engine looking at latch of 2-section door (3). Drill holes $\varnothing 11$ in marked places and set blind rivet nuts M8 there. Assembly latch of door to cover of engine using M8x20 screws

7. Put (locate) angle bar of door (4) to OHG in such way so seal of edge of door adheres to this angle bar evenly (3) when door is closed. Assembly angle bar using self drilling screws.



8. When door is closed mark places for assembly hole of lock latch holder (4) on front part of OHG. Drill holes $\varnothing 11$ in marked places and set blind rivet nuts M8. Assembly lock latch holder to OHG using M8x20 screws.

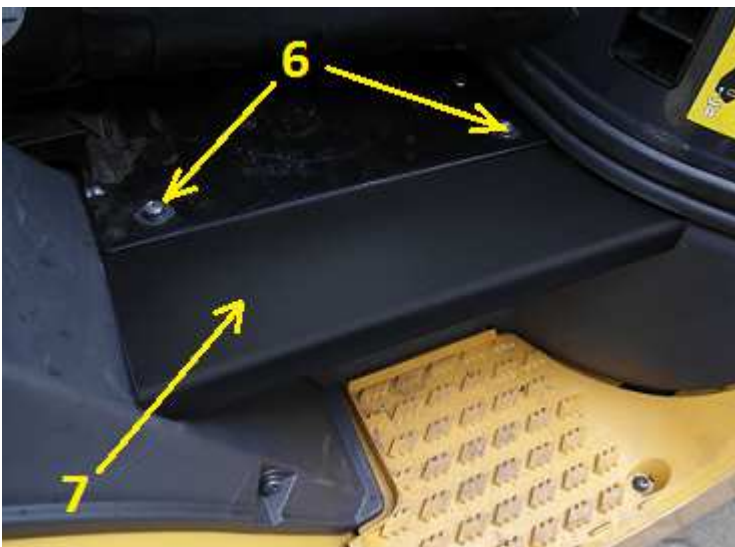
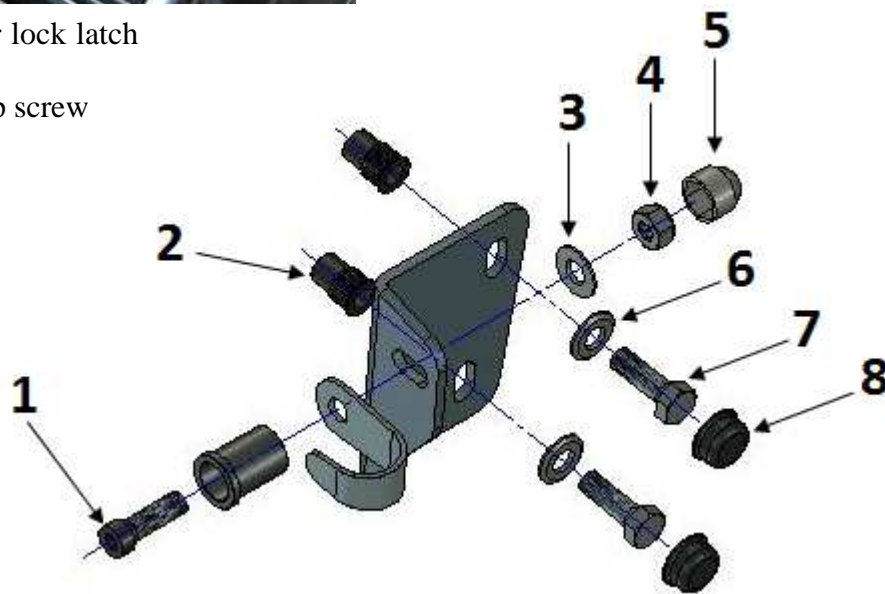


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Complete assembly set for lock latch holder:

- 1 – M8x30 socket head cap screw
- 2 – blind rivet nut M8
- 3 – washer Ø8
- 4 – self-locking nut M8
- 5 – hex cap SW13
- 6 – washer Ø8
- 7 – M8x20 screw
- 8 – round cap SW13



9. Unscrew original screws (6). Tuck floor (6) under original floor of forklift and assembly it using screws (6) then.

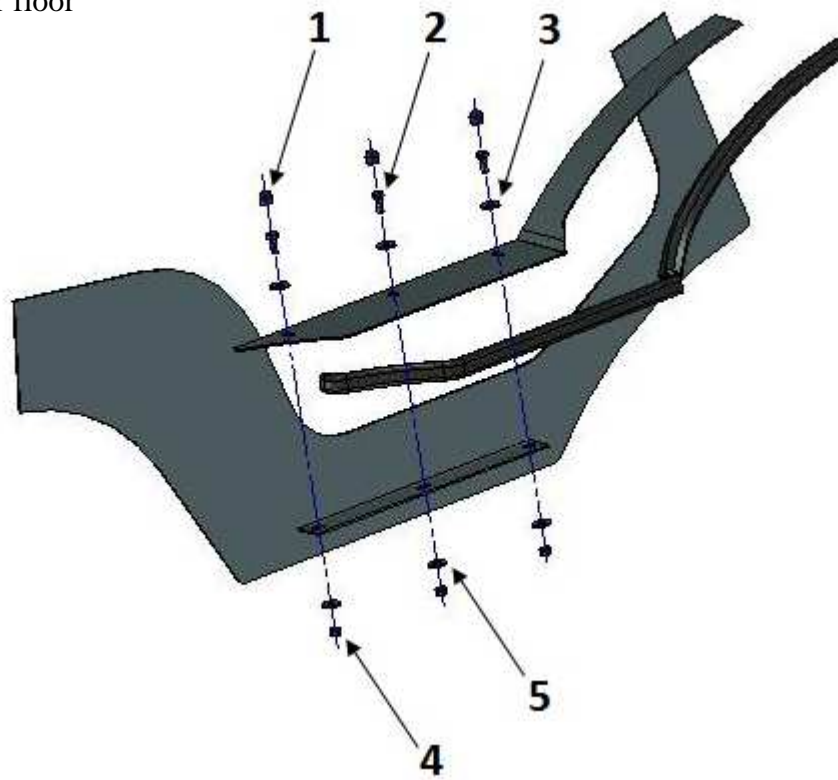
10. If there is any gap between floor of door and floor of forklift when door is closed, floor of door must be regulated by pushing it on bean-shaped holes to get rid of this gap.



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Complete assembly set for floor
of door:

- 1 – hex cap SW10
- 2 – M6x16 screw
- 3 – washer extend Ø6
- 4 – self-locking nut M6
- 5 – washer extend Ø6





X. WIPERS

1. Drill 2 holes Ø11 in front upper part of cockpit (1) under assembly holes of wiper that are in front glass/pane. Draw electric wire of motor through this drilled hose.

2. Connect wire to motor of wiper.

3. Screw this motor to front glass/pane, then assembly arm and blade of wiper onto it.

4. Attach sprinkler hose grommet in front glass hole and draw hose through



5. Drill Ø 20 hole in right top part of cockpit (2). Draw sprinkler hose under cockpit towards right front profile.

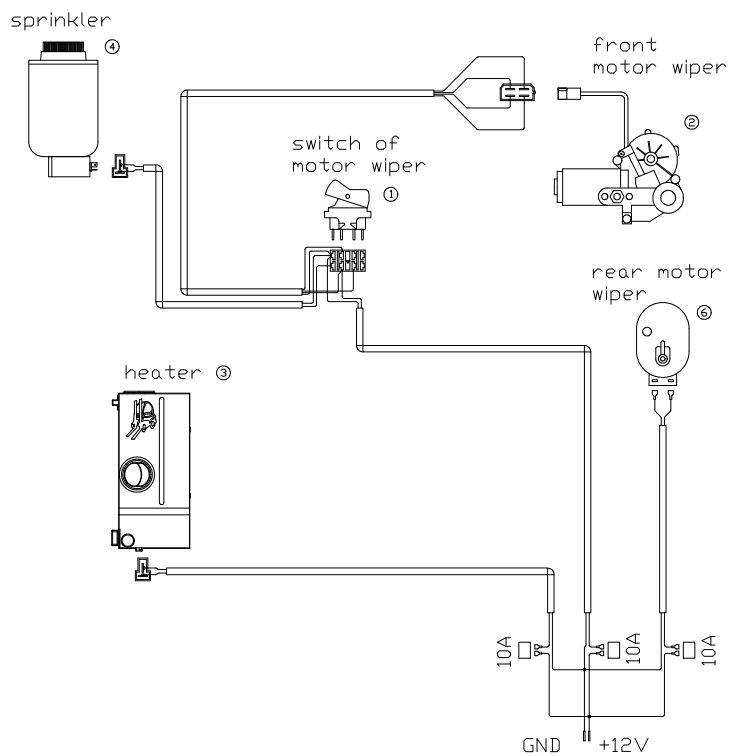
6. Attach sprinkler tank holder (3) to front right profile in such position not to hit door lock while door shutting. Attach holder using self-drilling screws.

7. Draw sprinkler hose and electric wire through hole drilled in the front rear part of cockpit.



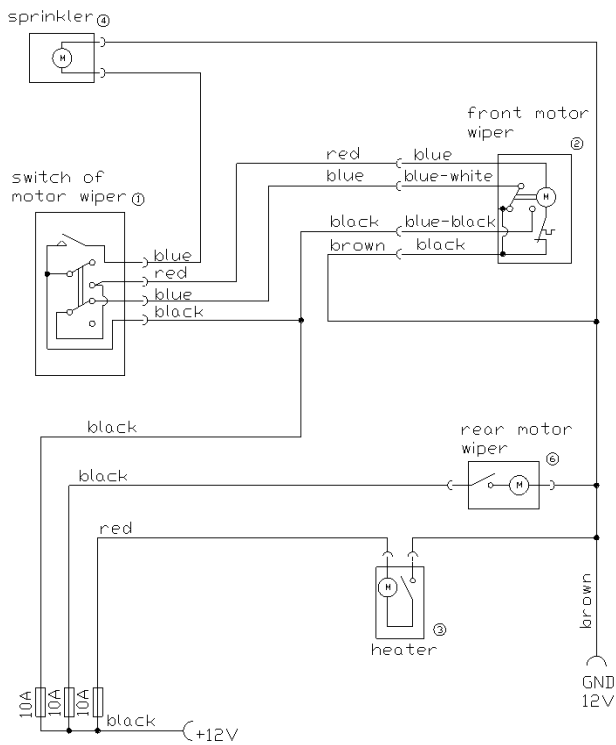
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7. Stick cushion (washer) (5) to the rear glass/pane of OHG using silicone and screw of motor of rear wiper. Assembly arm and blade of rear wiper. Draw electric wire of rear wiper through hole that is in upper middle part of rear upper profile of OHG (4) towards original fuse panel.



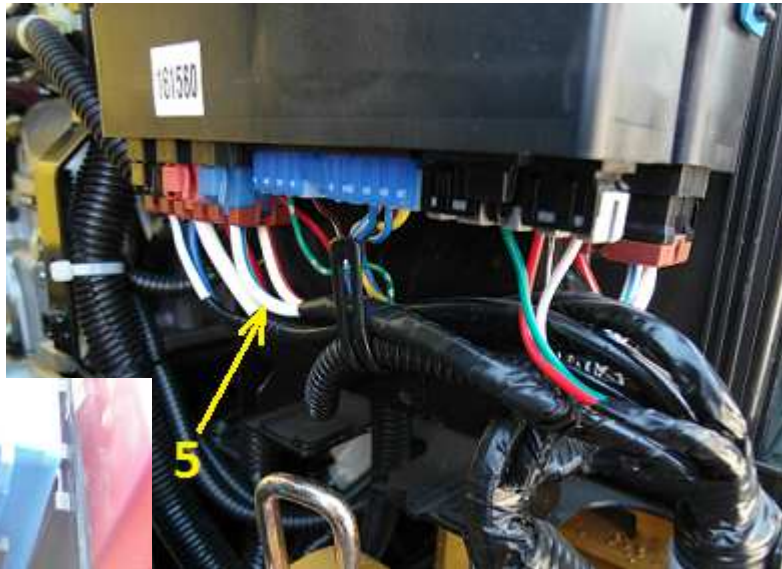


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8. Solder black wires of fuse panel (6) to white-blue wire (5) of original fuse panel.

9. Screw brown mass wire to nearest screw of body engine.



10. Stick fuse panel (6).

11. Check if works when cover of engine is closed.

LPG heater



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1. Put heater with assembled holder (1) to cockpit. Then mark places for assembly holes on OHG.
2. Drill holes $\text{Ø}11$ in marked places and then set blind rivet nuts M8 there. Assembly heater using M8x20 screws (2).



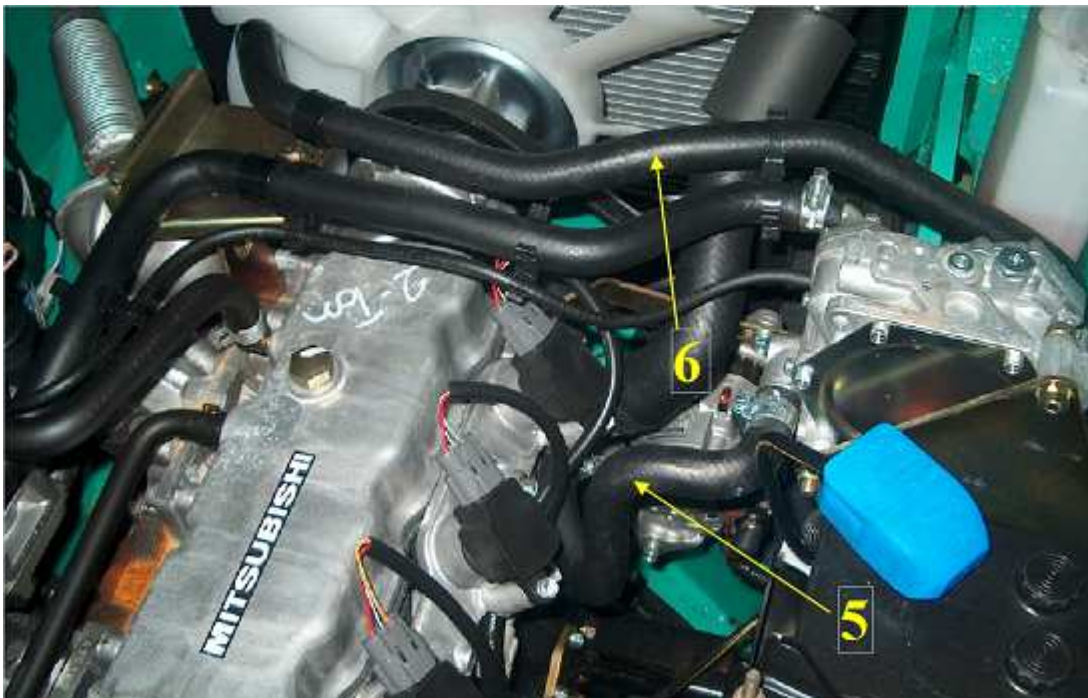
3. Draw tubes onto spouts of lower part of heater and clench using bands.
4. Connect electric wires.
5. Take floor of forklift out and cut right upper corner of this floor sizes: 40x40 mm off.
6. Draw electric wires trough cut hole (4). Put seal onto edge of cut hole.



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7. Cut hoses (5) and (6) out. Assembly T-pipe with hose that supplies heating staff to heater to hose (5) and assembly T-pipe hose that takes heating staff out of heater to hose (6).





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Diesel heater

1. Put heater with assembled holder (1) to cockpit. Then mark places for assembly holes on OHG
2. Drill holes $\text{Ø}11$ in marked places and then set blind rivet nuts M8 there. Assembly heater using M8x20 screws (2).



3. Draw tubes onto spouts of lower part of heater and clench using bands.
4. Connect electric wires.



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5. Take floor of forklift out and cut right upper corner of this floor sizes: 40x40 mm off.
6. Draw electric wires trough cut hole (4). Put seal onto edge of cut hole.



7. In place where spout is (5) assembly reduction with copper seal and then hose that supplies heating staff to heater.

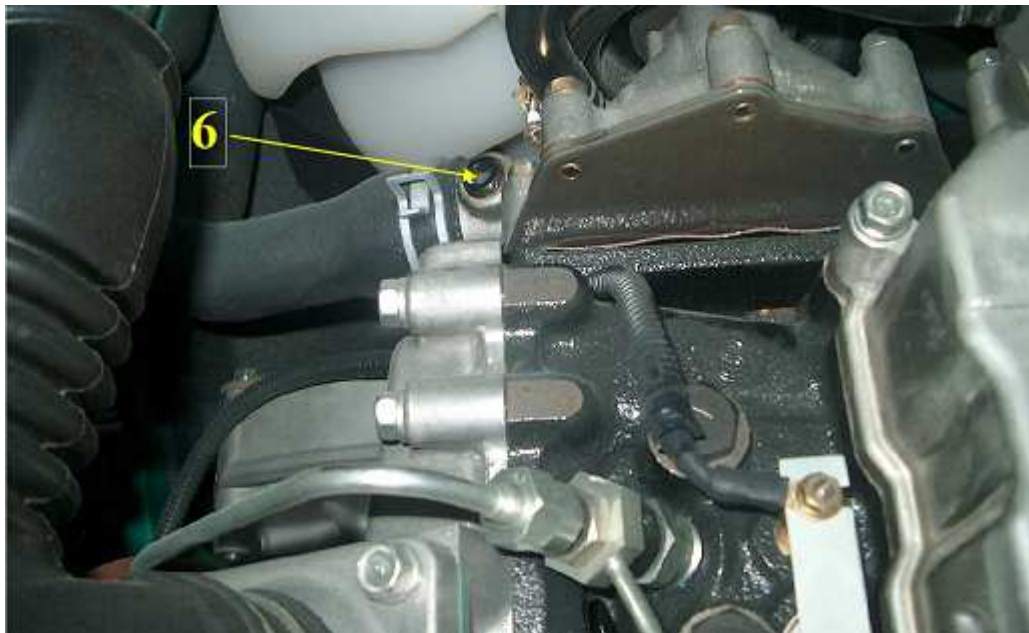




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8. In place where spout is (6) assembly reduction with copper seal and then hose that takes heating staff out of heater.





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