

Aircraft refueling vehicle

instruction manual

To the user

Dear users.

Thank you for choosing and using our "DESEINOR" brand aircraft refueling truck!

How to make your newly purchased aircraft refueling truck can prolong the service life and get the best benefit, is our common pursuit of the goal and you! However, much depends on your correct use and maintenance of the vehicle. For this reason, we earnestly hope that you read this manual in detail before using the vehicle and keep it in a safe place.

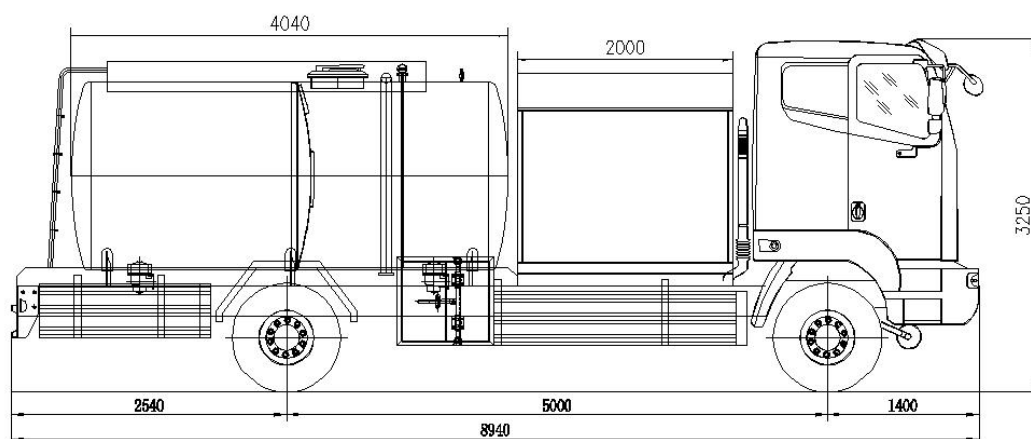
This instruction manual briefly describes the technical parameters of the vehicle, the basic structure and function of the upper part, operating procedures, precautions for use, maintenance and repair, troubleshooting of common problems and spare parts and spare parts list, the use and maintenance of the chassis see chassis instruction manuals, special features before use, please read this instruction manual carefully, in strict accordance with the operating procedures, to ensure that the use of safety.

Due to technical improvement and market demand, our company reserves the right to revise the manual, if the parameters are changed, without prior notice.

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一、 external figure



II. Structural profile

1. General description of the aircraft refueling truck

The aircraft refueling truck, tank material for aluminum alloy, the vehicle by the chassis system, tank assembly, bottom filling system, level measurement, sampling system, etc., with the pump oil, pressure, purification, measurement of the function, is able to independently, quickly and safely complete the aircraft ground refueling, pumping fuel for the special vehicles. Pipeline using aluminum alloy materials, centrifugal pumps, hydraulic refueling reel, operating cabinets installed roll-up door, beautiful and safe, will be the car tanks in the aircraft fuel, after filtering, measuring, through pressure or

gravity refueling reel hose injected into the aircraft tanks or other fuel equipment; tanker left side of the tail end with a connector valve HYJ-63X, to facilitate the bottom of the filling, the rear tail end is equipped with easy access to the personnel up and down the tank of the escalator.

2. Structure of the components

(1) Oil tanks

The tank mainly consists of tank body, anti-wave plate, manhole and European standard manhole cover, submarine valve, underfill oil, anti-overflow probe, oil and gas recovery, electronic level alarm, enclosure, sub-frame, movable guardrail, gun barrel and so on.

Tank head wall thickness of 5.7mm, tank wall thickness of 5.6mm, the cross-section of the square circle, using high-quality aluminum alloy plate welded together, the tank and the chassis beam upper and lower connecting plate embedded joints, solid structure. The tank is equipped with anti-wave plate, which can reduce the fluctuation of the liquid in the tank when the car is accelerating and decelerating. The top of the tank is equipped with a guard plate and a guide pipe, as well as a European standard manhole (with emergency relief device and built-in breathing valve) and other components, and

the bottom of the tank is equipped with an emergency shut-off valve.

The head adopts water-pressure rising disc head, and the weld seam with the cylinder body adopts butt weld seam.

The anti-wave plate adopts the same disk-type anti-wave plate as the head, with a thickness of 5.7mm, and the anti-wave plate has process holes such as maintenance manhole with a diameter of 500mm.

The tank is fitted with an electronic level gauge to allow observation of the tank's oil storage capacity.

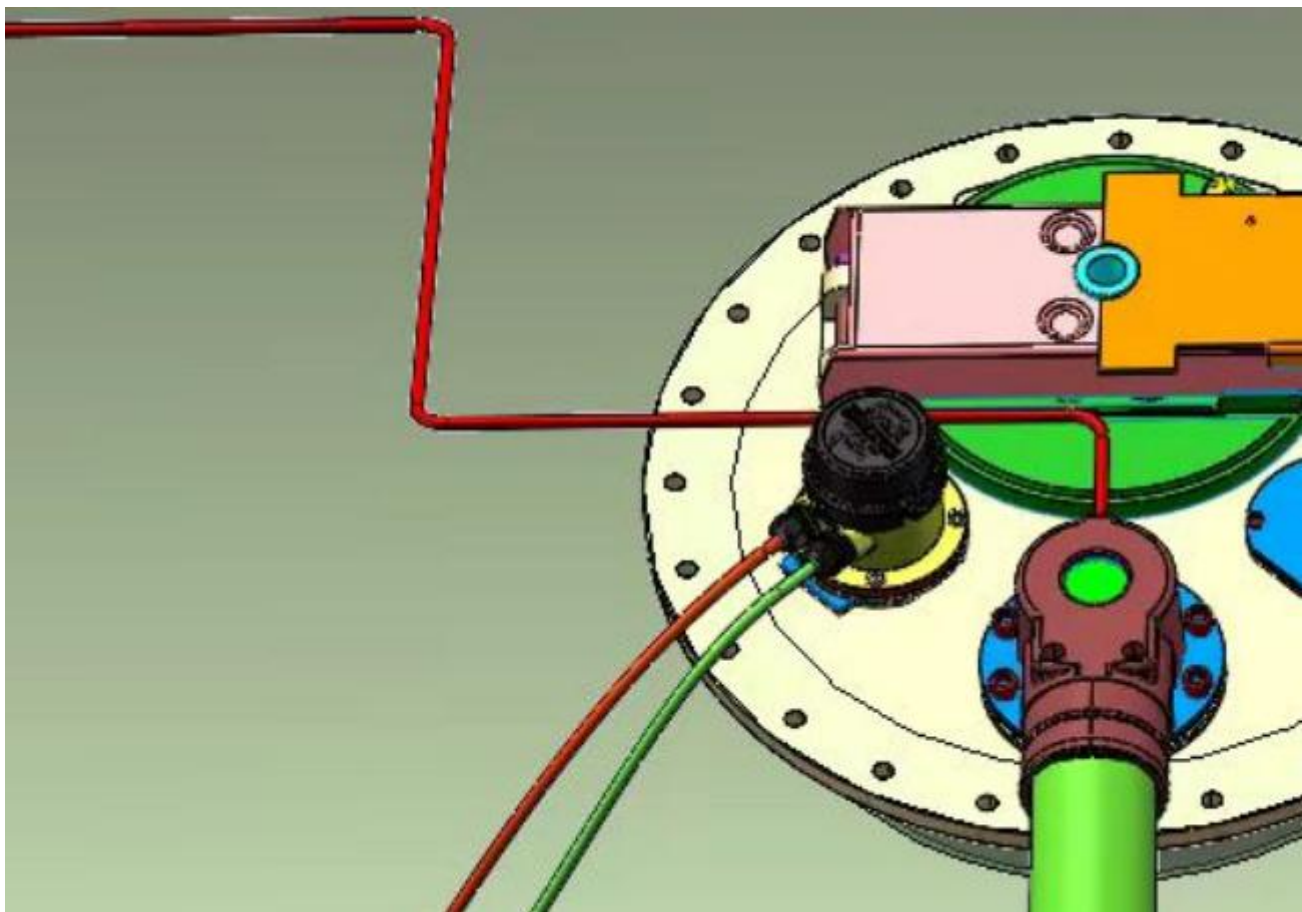
(2) Bottom filling system:

European standard manhole cover, lower mounting port, joint valve HYJ-63X, emergency shut-off valve, conductive bobbin.

European standard manhole covers:

The manhole cover is installed on the top of the tank, the material is cast aluminum alloy, it has the function of fire-resistant breathing, emergency relief device and all-round overflow prevention. The manhole cover has a built-in breathing valve, the built-in breathing valve enables the tank to have a breathing function, and the oil in the tank can expand

or contract freely with the external temperature. The pressure of the breathing valve is set so that it opens when the positive pressure in the tank is 4 KPa to 7 KPa and opens when the negative pressure is -2 KPa to 4 KPa. Built-in breathing valve is equipped with a semicircular copper core at the lower end, under normal circumstances, the brass semicircular weight is at the bottom of the valve, the breathing valve works normally, when the tanker truck is tipped over, the brass semicircular weight moves, sealing the valve mouth, to ensure that the oil in the tank does not leak out. See the picture below



Emergency shut-off valve (submarine valve)

Installed in the bottom of the tank, the material is cast aluminum, is the tank and the external pipeline separated and connected parts, when the bottom valve is violently impacted, the shear part of the disconnection, but to maintain the integrity of the valve body. When the downstream pipeline is damaged by impact, it protects the oil from leaking out. Opening and closing are pneumatically controlled. The pneumatic control switch is located in the operation box.



(3) Level measurement:



(4) Refueling system:

Subsea valves, pumps, filter separators, flow meters, reel control valves, pressure reels and header valves, gravity reels and guns, differential pressure gauges, pressure gauges, tachometer lights.



(5) Sampling systems:

- 1) Pump outlet sampling valve (i.e., pre-filter sampling valve, filter separator inlet front receiver);
- 2) Post-filter sampling valve (take over at the outlet of the filter separator);
- (3) Filter separator discharge port sampling valve (filter separator automatic return discharge valve and discharge pipe valve indirect pipe);

4) Sampling valve combined with retarder cylinder

5) Sampler (transparent)

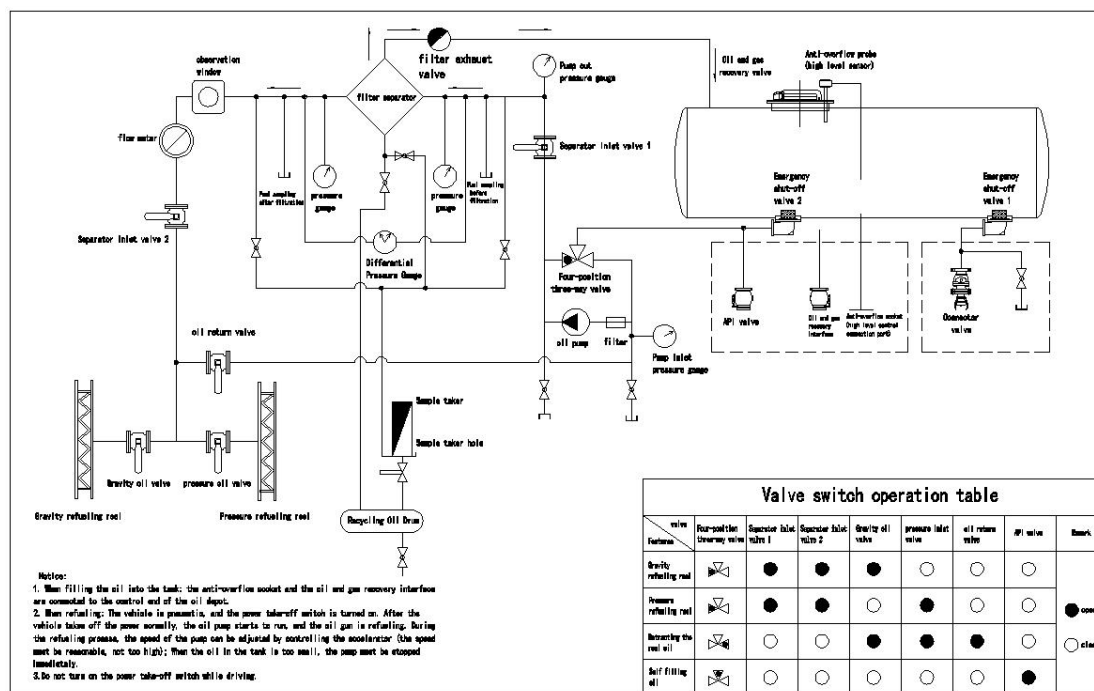
(6) Sampler sampling recycling oil drums

Sampler and sampling valve combined with retarder residual liquid are connected to the recovery drum with a valve; the recovery drum is equipped with a venting valve and a drain valve.



III. Use and maintenance

1. Operation Schematic



2. Preparation before use

(1) Check that the conductive towing strap at the rear of the vehicle is on the ground and that the condition of the equipment is normal.

(2) Insert the electric shelter pole into the wet ground to prevent static fires.

(3) Check that the clutch operating handle, extractor operating handle or control valve switch is in the correct position and that the throttle is turned to minimum. Each ball valve handle is in the correct position.

(4) Check the lubricant plane in the pump booster box and add gear oil if insufficient.

(5) When there is no liquid in the oil pump, the pump body should be

pre-added to the guide liquid, and when the new car is used for the first time, the pump must be added to the guide liquid to prevent working without liquid, dry running and damage to the pump body.

(6) Check that discharge lines, discharge valves, and transfer tubes are empty and clean, and ensure that all piping is suitable for loading and unloading media items.

(7) If liquid is to be pumped, rotating equipment should be kept away from the tanker to prevent entanglement. When the liquid is pumped out, the pump should be stopped in time and the valve closed.

(8) In case of emergency, the emergency shut-off valve remote control switch should be closed in time to cut off.

(9) The parking brake must be applied before loading or unloading and the wheels secured with triangles.

(10) Provide warning signs in front of loading and unloading materials.

(11) When refueling, open the submarine valve and then start the car, open the pickup switch, when the amount of oil in the tank is too small, you must first stop the pump immediately, it is strictly prohibited to open the pickup switch on the way.

3. Operating instructions

feed (esp. a machine)

(1) Filling directly from the upper tank opening.

(2) Lower loading oil depot loading.

(3) Pump-in type: one end of the fuel loading hose is linked to the pump inlet, the other end is connected to the fuel depot, open the pump inlet valve and four-position three-way valve  , hang the pickup, the pump works, can be realized to the tank in the body of the pump into the loading.

discharge

(1) Gravity self-unloading type: under the action of air circuit, open the emergency shut-off valve, and then by opening the joint valve or under loading oil, can realize self-flow.

(2) Pump-out discharge: open the submarine valve, four-position three-way valve  , one end of the material delivery pipe with the vehicle connected to the pump outlet, the other end is connected to the fuel depot, open the pump outlet valve, hang the extractor, the pump works, can be realized to the outside of the pump out of the discharge.

Pressure refueling

All valves are closed before refueling the aircraft's under-wing tanks using aviation pressure fueling fittings.

The specific refueling process is as follows:

(1) Toggle the pressure refueling reel multi-way valve outward,

remove the aviation pressure refueling fitting, pull the pressure reel under the wing, and dock the tank connector under the wing.

(2) Turn on the equipment compartment gas master switch, power switch, and lighting switch.

(3) Turn on the subsea valve switch, 4-position 3-way , and open the pressure refueling ball valve.

(4) Start the engine; then open the extractor switch (first time use is recommended to open the submarine valve, the pump is prohibited from idling); you can pull the hand throttle to control the equipment compartment tachometer speed below 1,000r/min, start refueling.

(5) When refueling is complete, close the pressure refueling valve and separate the aviation pressure refueling connector from the under-wing tank port. Close the subsea valve and the gas main switch.

(6) Push the multi-way valve inward, retract the hydraulic reel, and reset the aviation pressure filler fitting into the retainer seat.

(7) Turn off the extractor and turn off the engine.

Gravity refueling

All valves are closed before using the fuel gun to refuel the aircraft's on-wing fuel tanks.

The specific refueling process is as follows:

(1) Toggle the gravity reel multi-way valve outward, remove the

refueling gun, pull the pressure reel to the wing, and dock the tank connection above the wing.

(2) Turn on the equipment compartment gas main switch, power switch, and lighting switch.

(3) Open the subsea valve switch, four-position three-way  , **and** open the gravity-fueling ball valve.

(4) Start the engine; then open the extractor switch (first time use is recommended to open the submarine valve, the pump is prohibited from idling); you can pull the hand throttle to control the equipment compartment tachometer speed below 1,000r/min, start refueling.

(5) When refueling is complete, close the gravity refueling valve and separate the refueling gun from the on-wing fuel tank connection. Close the submarine valve and the gas main switch.

(6) Push the multi-way valve box inward, retract the hydraulic reel, and reset the filler gun into the retainer.

(7) Turn off the extractor and turn off the engine.

Pressure Reel Back Fuel

(1) Toggle the pressure refueling reel multi-way valve outward, remove the aviation pressure refueling connector, pull the pressure reel under the wing, and dock the tank connector or fuel reservoir under the wing.

(2) Open the equipment compartment gas master switch,

four-position three-way valve  , power switch, lighting switch.

(3) Open the pressure refueling ball valve and return valve.

(4) Start the engine; then turn on the extractor switch; you can pull the hand throttle to control the tachometer speed of the equipment compartment below 1000r/min to start pumping.

(5) After pumping is completed, close the pressure refueling valve and return valve, and separate the aviation pressure refueling connector from the under-wing tank connection or fuel reservoir. Turn off the gas main switch.

(6) Push the multi-way valve inward, retract the hydraulic reel, and reset the aviation pressure filler fitting into the retainer seat.

(7) Turn off the extractor and turn off the engine.

Gravity Reel Back Fuel

(1) Toggle **the gravity** refueling reel multi-way valve outward, remove the refueling gun, pull the pressure reel to the wing, and insert it into the wing's fuel tank.

(2) Turn on the equipment compartment gas master switch,

four-position three-way valve  , power switch, and lighting switch.

(3) Open gravity fill ball valve and return valve.

(4) Start the engine; then turn on the extractor switch; you can pull the hand throttle to control the tachometer speed of the equipment compartment below 1000r/min to start pumping.

(5) When pumping is completed, close the gravity return oil filler valve and the oil return valve, and separate the oil filler gun from the tank port on the wing. Close the gas main switch.

(6) Push the multi-way valve inward, retract the hydraulic reel, and reset the filler gun into the holder.

(7) Turn off the extractor and turn off the engine.

IV. Common troubleshooting methods

	Therefore	Exclude Divide Method
Tank deflated (concave)	1. Unloading too fast 2. Ventilation valve failure	1. Reduce the unloading speed or open the small cover of the observation hole or open the exhaust gas recovery pipe 2. Clean vent valve or replace
Liquid leaking from vent valve	1. High temperature of the liquid in the tank 2. Ventilation valve failure	1. Reduce the temperature of the liquid in the tank 2. Clean vent valve or replace
Emergency shut-off valve won't open.	1. Valve control air pressure too low 2. Valve control air line leakage	1. Adjust oil/air separator pressure 2. Repair leaking lines
Emergency shut-off valve won't open.	3. Valve damage 4. Incorrect operation	3. Repair or replacement 4. Both control switches are turned on

Emergency shut-off valve won't close.	1. Dirt caking in the valve 2. Cotton yarn and other debris entangled in the valve plate 3. Damaged valve gasket	1. Remove lumps 2. Removal of debris 3. Repair or replacement
Ball valves don't work or not fully switchable	1. Dirt caking inside the valve 2. Cotton yarn and other debris entangled in the valve plate 3. Damaged valve gasket	1. Clear clumps 2. Clearance of debris 3. Repair or replacement
Poor unloading	1. Clogged discharge tubes and valves 2. Ventilation valve failure 3. Gas phase imbalance inside and outside the tank 4. Liquid viscosity too high 5. Clogged filters 6. Oil pump failure	1. Remove the blockage 2. Repair or replacement 3. Reduce the unloading speed or open the small cover of the observation hole or open the exhaust gas recovery pipe 4. Reduces liquid viscosity 5. Clean filters or replace 6. Repair or replacement
More material left over	1. Too much slope at the car parking place 2. Foreign objects in pipes	1. level off 2. clear foreign objects (idiom); to liquidate foreign objects
Improper pump feed (or too little suction)	1. No lead in pump 2. Self-priming liquid depth over 5 meters 3. The tank is too dirty, the discharge port is clogged, and water freezes in the tank in winter.	1. Add approximately 15 liters of primer to the pump from the inlet or outlet port 2. Beyond the use of the vehicle 3. Remove the discharge tube, remove debris and melt the ice with hot water or heat.
Failure of chassis components	See chassis instruction manual	See chassis instruction manual
Tanker Filter Failure	See oil truck filter instruction manual	See oil truck filter instruction manual