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**PERFORM  
SPECIAL TASKS**

# 1. PERFORM SPECIAL TASKS

## 1.1. Sling load usage

The ability to use a Sling Load for carriage of external cargo has been implemented after release of version 1.2.8, see [Figure 1.1](#)



Figure 1.1. Fly with sling load

### 1.1.1. Flight mission preparation for a Sling Load usage

To create a mission You'll need to make following actions (see Figure 1.2):

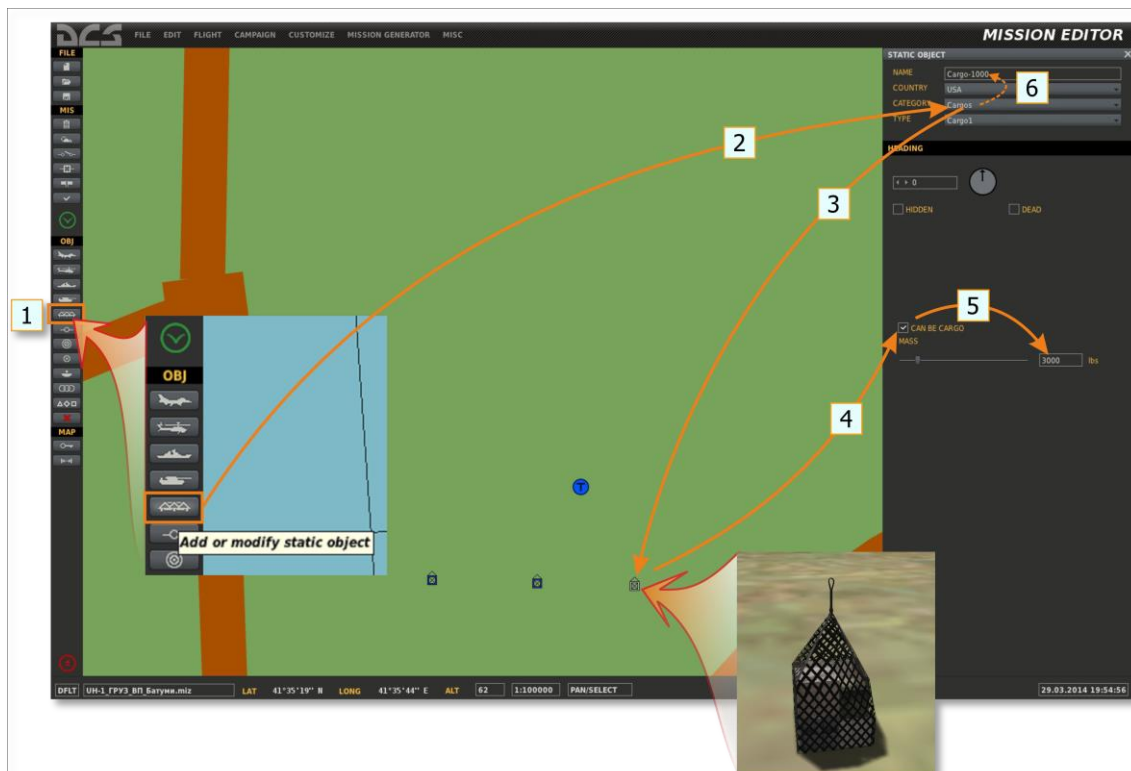
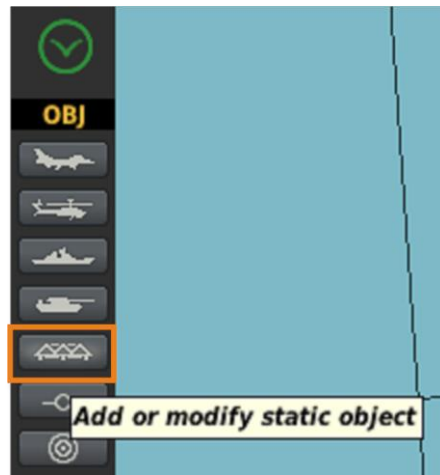
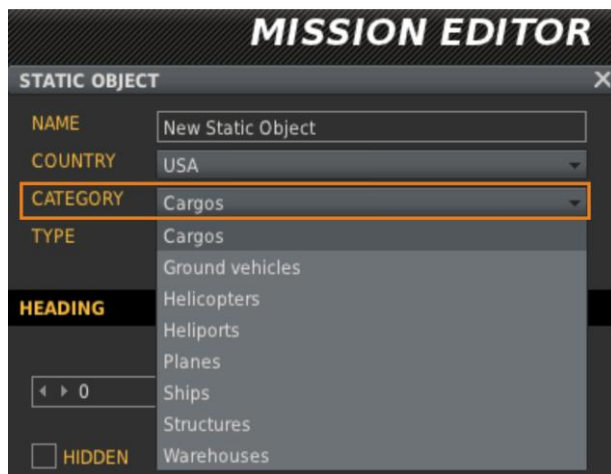


Figure 1.2. General sling load mission creation plan.



1. Select static objects;
2. Select CATEGORY – "Cargos", TYPE – "Cargo-1":



3. Set this object(s) on the map (left button click);
4. Set the flag CAN BE CARGO (for an ability to select and hook your cargos during the game):



5. Set the required mass of cargo (about 500 kg (1100 lbs) is recommended for beginners);
6. Rename created object(s) (recommended), for example "LOAD-500" or "CARGO-650" for convenient in Game usage.

The UH-1H cargo hook maximum capacity is 4,000 pounds (1800kg).

### 1.1.2. Inflight usage (cargo selection, hooking and unhooking)

Let's review the list of actions needed to select, hook and unhook the cargo.

At mission start we have several different weight cargos located in certain area. It's needed to select the one, perform hooking, take off, flight to the designated unhooking area, approach the unhooking point and unhook the cargo.

*PLAYER'S ACTIONS.*

### Selection of cargo

For making the cargo selection possible the "cargo selection zone" was implemented. That zone is connected to and moves with player's or AI helicopter (marked as a circles around helicopters No.1 and No.2). Thus cargos can be selected by player being inside mentioned zone only – at a distance less than "cargo selection zone" radius (see Figure 1.3, helicopter No.2)

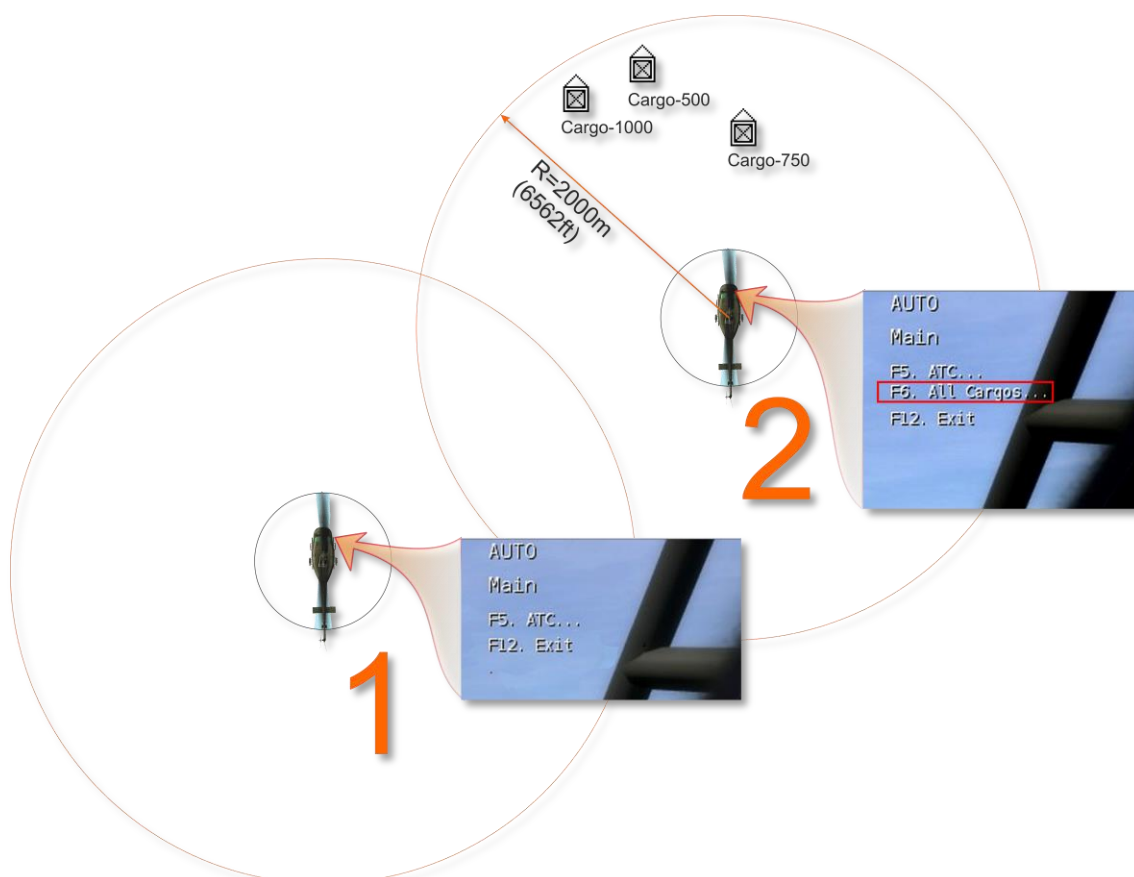


Figure 1.3. Cargo selection menu appearance dependant on distance to cargo.

Based on the testing experience, the "cargo selection zone" radius is set to 2,000m (6,562ft). If a helicopter is more than 2,000m away from the cargos, no cargo can be selected (helicopter menu #1). As soon as any cargo gets into the "cargo selection zone", which moves with the helicopter, a new menu item appears and additional page containing the list of cargos can be activated: [ \ ] -> [F6] (helicopter menu #2). Now player can select any cargo from a list (see [Figure 1.4](#)):

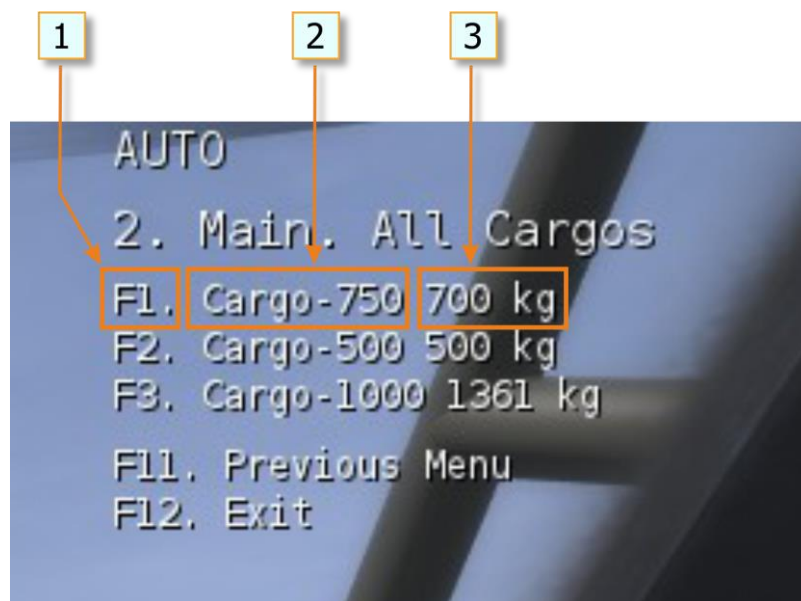


Figure 1.4. Menu for select of cargo

1. Selection key
2. Name of cargo

3. True weight of cargo

To select a cargo player needs to press one of the keys [F1...F10]. Simultaneously the cargo location will be marked with a smoke (white or red). Smoke marker will be visible only for the player who has selected this cargo (see Figure 1.5):



Figure 1.5. Auto designation of cargo with a smoke marker

### ***Hooking the cargo***

After cargo selection the player has two options of picking it up. The first one (automatic) is from hovering above the cargo, the second one (manual, i.e. by

player command) – landing near by. When the first option is used, the function of automatic cargo hooking is activated (given the hovering is performed in needed manner, see below). If the second option is used, cargo gets hooked by key command when player landed close enough the selected cargo.

The cargo selection can be cancelled by the command menu: [ \ ] -> [F6] -> [F1]. After this, by using [ \ ] -> [F6] all the cargos within a 2,000m radius will again be available.

To help the player to determine the required flight direction towards the cargo and also the helicopter location above the cargo, a cargo display can be activated [LShift+LCtrl+C], which is a virtual camera directed downwards perpendicular to the horizon. The camera does not take into account the roll and pitch deflections. It considers the heading alterations only. Also it has a marker of azimuth cargo position (see [Figure 1.6](#))



**Figure 1.6. Cargo position display.**

1. Smoke marker

2. Cargo position display

3. Marker of cargo position

To lift off cargo from the surface the helicopters hovering altitude should be at least 8.96m (radioaltimeter indications must be at least 30 ft).

*AUTOMATIC ATTACHMENT OF CARGO (CARGO HOOKED)* actuates if the player meets several conditions, which take into account the rope suspension length (7m or 23ft), the accuracy of the hovering position and the interval necessary for a virtual hookup man to hook the load. Therefore, in order to carry out an automatic attachment of cargo it is necessary to hover within a specified time lapse in a certain area above the cargo with the deviations from the center no more than:

- (1) relative to the longitudinal axis – 2m (6ft);
- (1) relative to the transversal axis – 2m (6ft);
- (2) relative to the vertical axis (the range of allowable hoverheights above the cargo is from 2.5m to 7m (8..23ft))

and be within the attachment area no less than 5 sec.

While within the attachment area (provided that all the conditions are met) the message HOVERING ABOVE CARGO will appear (see [Figure 1.7](#)).



Figure 1.7. Conditions for Automatic attachment of load at hovering method (1of2).



Figure 1.8. Conditions for Automatic attachment of load at hovering method (2of2).

In case you are out of the attachment area, the message BEYOND ZONE OF HOVERING will appear. Once the cargo is automatically attached, the message CARGO HOOKED will appear.

While hovering above the cargo using the camera it is recommended to use it only by peripheral vision with your attention being focused on the surface before the helicopter in a sweeping glance so as to maintain the hovering position more accurately from displacements relative to the longitudinal and transversal axes.

*MANUAL ATTACHMENT OF CARGO (CARGO HOOKED)* is carried out by player's command [RShift+RCtrl+L] after landing near the cargo (the distance from the helicopter center is no more than 5m or 16ft), see [Figure 1.9](#).



Figure 1.9. Cargo hooked (landing method).

As a result of attaching cargo a rope suspension appears. The cargo selection can be cancelled by the command menu: [ \ ] -> [F6] -> [F1]. After this, by using [ \ ] -> [F6] all the cargos within a 2,000m radius will again be available.

### ***Take off with a sling load***

Upon receiving the message CARGO HOOKED, take off vertically with the sling load. Perform the vertical climb up to the height so as the cargo is higher no less than 5m (15ft) than hazards in the runway heading. After the climb without hover locking accelerate to 60 KNOTS and continue the climb to the specified value.

### ***Flight to the area where the cargo will be unhooked***

After the climb put the helicopter over at the speed of 60..100KNOTS. During the flight when the cargo swing occurs, damp out oscillations:

- when the roll oscillations occurs – make a small roll movement in the same direction where the cargo is moving or reduce a little the collective pitch at the moment when the cargo is close to one of the end points;

- when the pitch oscillations occurs – reduce a little the collective pitch at the moment when the cargo is close to one of the end points.

***Approach to the area of the load detachment, detachment of load (cargo unhook)***

You should approach the area of the load detachment much smoother than during the usual flight. Mark visually the hovering position and reference points (2..3) at the distance of 10..30m (30..100ft) from the hovering position to make it easier to keep to the hovering position. These reference points must be seen from the cockpit during the hovering. It is recommended to keep in sight the chosen reference points by sweeping motion of the eyes so as you could timely correct even the initial helicopter displacement tendencies. It is necessary to perform *SHORT TWOFOLD MOTIONS BY THE CYCLIC CONTROL STICK* (amplitude is 0.5..1cm, motion rate is 1.5..2Hz) for more precise piloting.

For more comfortable load detachment you can activate the load automatic detachment function [\[RShift+RCtrl+K\]](#). This will provide for an automatic detachment of the cargo when it touches down the surface. The automatic detachment is accompanied by the message AUTOUNHOOK ACTIVATION.

Likewise, the cargo can be unhook after landing near the cargo (the same key commands).

***1.2. Helicopter assault (airlift delivery)***

**WIP**