SATLOC

INTELLIFLOW 3

DRY INSTALLATION GUIDE

875-3000-200 Rev B

Overview: This installation guide lists all the parts in the IntelliFlow 3 (IF3) dry kits and instructions on how to install the IF3 components, associated cables, and switches.

Read this manual thoroughly before beginning the installation.
If you have any questions, contact your local dealer or Satloc Customer Service.

PRODUCT DESCRIPTION AND DETAILS

With the IntelliFlow 3™ (IF3) control system on board, the installed GPS, working with IF3, automatically controls application rates. This produces an accurate constant application rate or a variable rate based on prescription maps (PMAPs) and/or 3rd party software. The required application rates can be pilot selected, or PMAPs can be created using Satloc MapStar® desktop software.

Enter desired rates through the GPS interface, and the IF3 system will regulate and maintain selected rates. Once installed, the Falcon Pro™ or G4™ GPS controls the IntelliFlow 3™ system settings. Spray rates and dry gate openings are automatically controlled with an accurate constant application rate or a variable rate based on application selections or prescription maps (PMAPs) in the GPS system. Fine-tune applications through the rate bump feature for more precise applications.

Satloc Falcon Pro and Satloc G4 will switch between liquid and dry settings with ease. Control your Transland Hydraulic 5", 7.5", or 10" gate system inside Falcon Pro or Satloc G4 and IntelliFlow 3™ connections. The IntelliFlow 3™ control system comes with a controller, associated cabling, and required unlocks.

Dry Application Features Include:

- *Liquid and Dry control options*
- *Regulate and maintain selected rates*
- *Fine tune application with rate bump*
- *Linear or rotary encoder support*
- *5", 7.5", or 10" Gates*
- *Constant or variable rate applications*
- *Gate increments of 1/32"*

This system sprays precise patterns using constant rate flow control, thereby reducing:

- *Fuel*
- *Flying time*
- *Application costs*
- *Pilot fatigue*

TABLE OF CONTENTS

Latest Version of the IntelliFlow 3 Dry Installation Guide

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SAFETY INFORMATION

Read and Follow Safety Messages

- In these instructions, you may see the heading ⚠WARNING: and/or the safety alert symbol ⚠. They indicate a hazardous situation that, if not avoided, could result in death or serious injury. The safety messages provide information to identify a hazard associated with potential injury.
- Read and understand this manual and all the warnings below before installing, operating, or performing maintenance or service. FAILURE TO DO SO MAY CAUSE IRREVERSIBLE DAMAGE TO YOUR SYSTEM.
- Keep this manual and all related safety information with the manuals for your aircraft.

⚠WARNING: Plan your installation by considering the following:
- Cable lengths
- Clearance space
- Power source
- Aircraft structure
- Visibility

⚠WARNING: Consider using existing hardware and hardware locations. Avoid drilling holes that may damage other equipment (such as structural frame members, electrical cables, or fluid lines).

⚠WARNING: Do not obstruct the view of, or access to, other instruments or the flying visibility of the operator.

⚠WARNING: Do not allow anyone to operate without instruction.

⚠WARNING: For trouble-free operation and maintenance of your IF3 system, adhere to the following recommendations.
- Avoid using IF3 in extreme environmental conditions (40-140°F is recommended operating temperature range).
- Wash the hopper/boom system thoroughly and methodically after spray sessions.

PARTS COVERED BY THIS INSTALLATION GUIDE

This guide applies to all IntelliFlow 3 dry installations for G4 and Falcon Pro and covers all IntelliFlow 3 kits. The table describes the parts that may be included in your installation.

Table 1: IntelliFlow 3 Dry Installation Parts

A 050-2509-000

G4 IF3 Cable
(1) (red cable)
Connects part Gs CONTROLLER to G4's FLOW port

B 054-0101-000

Power Cable
(1) (black and white cable)
Connects part G's POWER cable to aircraft power source, see part C

C 424-0004-222

Power Switch/Circuit Breaker
(1) (10A) Use with part B, wire in with aircraft power

D 050-2502-000

Trim Pressure Cable
(1) (red cable)
Connects part G's TRIM/PRESSURE cable

E 050-2501-000

Dry Gate Enconder Cable
(1) (red, white, and blue cable)
Connects to part G's DRY FLOW cable to triggers, security switches, arm switch, and motor solenoids

F 075-3022-000

Security Switch
(1)

G 806-5002-000

IF3 Controller
(1) (blue box with 6 ports)
Liquid and Dry Controller

H #27676

Control Panel for Standard Hydraulic Gate
(1)*For Standard Hydraulic Gate

I #27677

Control Panel for Accumulator Hydraulic Gate
(1)
*For Accumulator Hydraulic Gate

J 050-2511-000

IF2 to IF3 Conversion Cable
(1) (red)
Connects a New IF3 Dry Encoder Cable E to an IF2 Rotary Sensor Cable (050-0404, 051-0410, or 050-0003) *Not Included in Kits

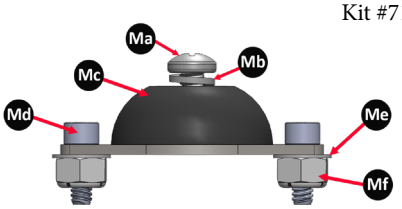
K Kit #711-1001-01

Terminal Ring
(2)

L Kit #710-2001-01

Horizontal Mounting Bracket
(2)

M Kit #710-2001-01

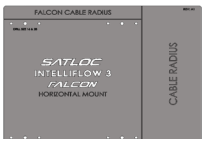


M4 Screw (4) - part Ma
Washer, split-lock (4) - part Mb
Vibration Isolator (4) - part Mc
Bolt, 6-32 x 3/8" (8) - part Md
Washer, (8) Me
Nut, locking 6-32 (8) - part Mf
Use items as required for your specific installation

N 601-1313-000

(Optional, not included in kits)
Mounting Layout Template for Falcon/IF3 Rack Mount

O 601-1317-000



(Optional, not included in kits)
Mounting Layout Template for Falcon/IF3 Horizontal Mount

P 050-2204-000

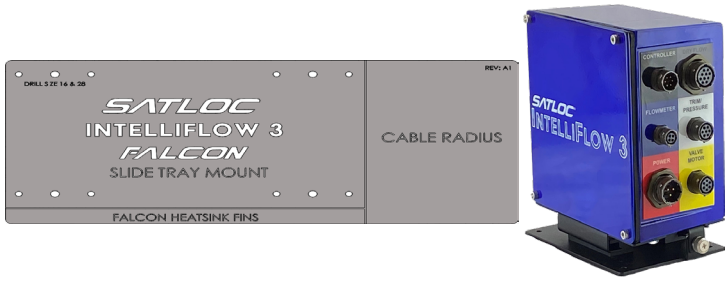
Falcon IF3 Extension Cable
(1) (red cable)
Connects part Gs CONTROLLER to one of Falcon Pro's Extension ports

INSTALLING INTELLIFLOW 3

Controller Installation

Mount the controller in an available space on the aircraft, for example, in or around the baggage compartment. Ensure there is enough space for making connections and cable bend radius. Access is needed behind the mounting surface to attach the nuts to the bolts (part M). When you have selected the mounting location, use one of the plate stencils (part N or part O) as a template to mark fastener positions. Use drill bit sizes 16 or 28 to drill holes for the fasteners and secure the IF3 Controller (part G) to the aircraft using hardware (part M).

Rack Mounting: It is recommended to use the Mounting Layout Template (PN 601-1313-000) to assure accuracy for locating the correct position of the vibration isolators. ***This template is available for purchase.***



Horizontal Mounting: It is recommended to use the Mounting Layout Template (PN 601-1317-000) to assure accuracy for locating the correct position of the vibration isolators. ***This template is available for purchase.***

1. CPU Rack Mounted Upright (PN 601-1313-000, Part N)
    a) Vibration Isolators (Part Mc) With Template (Part N)
        i) Place the template (Part N) in the desired location while heeding the above recommendations.
        ii) Use the template to mark the fastener hole locations of the four vibration isolator feet (Part Mc). There are eight holes at #28 drill bit (0.140”).
        iii) Drill holes being careful not to cause damage.
        iv) Use parts Md, Me, and Mf to attach Mc to the airframe.
        v) Use parts Ma and Mb to attach the CPU rack system to vibration isolators (Part Mc).

    b) Vibration Isolators Without Template
        i) Using parts Ma and Mb attach vibration isolators (Part Mc) to the CPU rack system.
        ii) Place CPU in the desired location while heeding the above recommendations.
        iii) Mark airframe fastener locations using the open holes in the vibration isolator feet.
        iv) Drill holes being careful not to cause damage.There are eight holes at #28 drill bit (0.140”).
        v) Use parts Md, Me, and Mf to attach vibration isolators (Part Mc) to approved structure.

2. CPU Horizontally Mounted With Vibration Isolators
    a) Horizontal Mounts With Template (PN 601-1317-000, Part O)
        i) Place the template (Part O) in the desired location while heeding the above recommendations.
        ii) Use the template to mark the fastener hole locations of the four vibration isolator feet (Part Mc). There are eight holes at #28 drill bit (0.140”).
        iii) Drill holes being careful not to cause damage.
        iv) Use hardware from the pre-assembled rack mount system to attach horizontal mounting brackets (Part L) to the CPU.
        v) Use parts Md, Me, and Mf to attach vibration isolators (Part Mc) to approved structure.
        vi) Use parts Ma and Mb to attach vibration mounts to horizontal mounting brackets (Part L).

b) Horizontal Mounts Without Template

i) Use hardware from the pre-assembled rack mount system to attach horizontal mounting brackets (Part L) to the CPU.

ii) Use parts Ma and Mb to attach vibration isolators (Part Mc) to horizontal mounting brackets (Part L).

iii) Place CPU in the desired location while heeding the above recommendations.

iv) Mark the fastener hole locations of the four vibration isolator feet. There are eight holes at #28 drill bit (0.140").

v) Drill holes being careful not to cause damage.

vi) Use parts Md, Me, and Mf to attach vibration isolators (Part Mc) to approved structure.

3) CPU Horizontally Mounted Without Vibration Isolators

a) Horizontal Mounts With Template (PN 601-1317-000, Part O)

i) Place the template (Part O) in the desired location while heeding the above recommendations.

ii) Use the template to mark the fastener hole locations of the 4 fastener locations. There are four holes at #16 drill bit (0.177").

iii) Drill holes being careful not to cause damage.

iv) Use hardware from the pre-assembled rack mount system to attach horizontal mounting brackets (Part L) to the CPU.

v) Use locally sourced hardware to attach the CPU to approved structure.

b) Horizontal Mounts Without Template

i) Use hardware from the pre-assembled rack mount system to attach horizontal mounting brackets (Part L) to the CPU.

ii) Place CPU in the desired location while heeding the above recommendations.

iii) Mark the fastener hole locations of the four fastener locations. There are four holes at #16 drill bit (0.177").

iv) Drill holes being careful not to cause damage.

v) Use locally sourced hardware to attach the CPU to approved structure.

Part G: IF3 Controller

Cable Connection Steps to IF3 Controller

1. Connect part A or Part P (depending upon the use of a G4 or Falcon Pro GPS). to the CONTROLLER port of part G.
2. Connect part A to G4's FLOW port **OR** part P to one of Falcon Pro's extension ports (depending upon the use of a Falcon Pro or G4 GPS).
3. Connect part B to part G's POWER port.
4. With part B and part C, ensure part C is a) wired into the aircraft's power supply and b) cockpit-mounted within easy reach of the pilot. *(Install per pilot's preference.)*
5. Connect part D to part G's TRIM/PRESSURE port.
6. Ensure the trim bump switch on part D is cockpit-mounted within easy reach of the pilot. *(Install per pilot's preference.)*
7. Connect part E to part G's DRY FLOW port.
8. Connect part E's encoder cable to the plane's dry gate's encoder.
9. See *Figure 1 Dry Flow Connections - Transland Standard Hydraulic Gate* or *Figure 2 Dry Flow Connections - Transland Accumulator Hydraulic Gate* to connect Cable E to the control panel (part #27676 for standard hydraulic gate or part #27677 for accumulator hydraulic gate).

⚠WARNING:

- Store excess cable lengths with a minimum six-inch bend radius.
- Do not coil cables (introduces noise).
- Avoid high-temperature exposure (for example - the exhaust, exhaust manifold) when routing.
- Hand tighten connections only; do not use tools (overtighten).

Dry Flow Connections for Transland Standard Hydraulic Gate

Please refer to Transland document 98607 for more details.

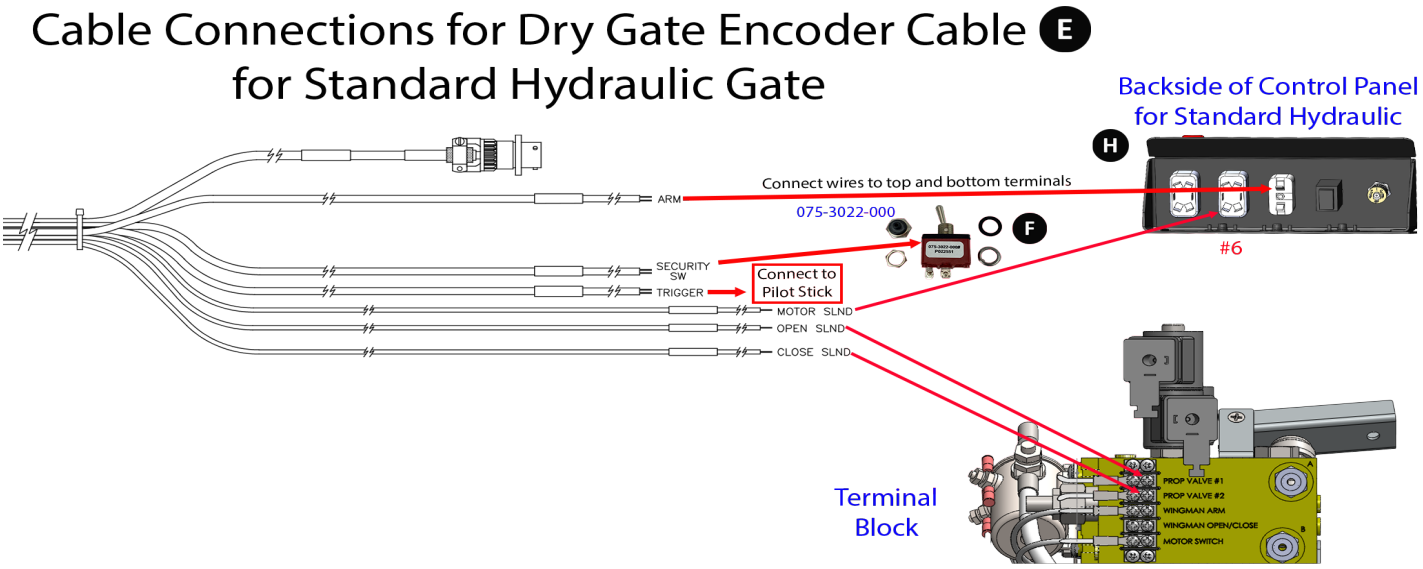


Figure 1: Display of How to Connect the Wires of Cable E for a Standard Hydraulic Gate

Terminal Block Connection Steps

1. Part E connects (in part) to the TERMINAL BLOCK (connections panel) at the top rear of the hydraulic power pack.
2. Connect part E's OPEN SLND wire to PROP VALVE #1 terminal and part E's CLOSE SLND wire to PROP VALVE #2 terminal.

Control Panel Connection Steps

1. Part E connects (in part) to the backside of part H.
2. Connect part E's MOTOR SLND wire to the #6 terminal of the primary/secondary switch on the backside of part H.
3. Connect part E's ARM cable to #1 and #2 terminals of ARM SWITCH on the backside of part H.

Pilot Stick Connection Steps

1. Connect part E's TRIGGER cable to the pilot stick.

Security Switch Connection Steps

1. Connect part E's SECURITY SW cable to part F.

Dry Flow Connections for Transland Accumulator Hydraulic Gate

Please refer to Transland document 98608 for more details.

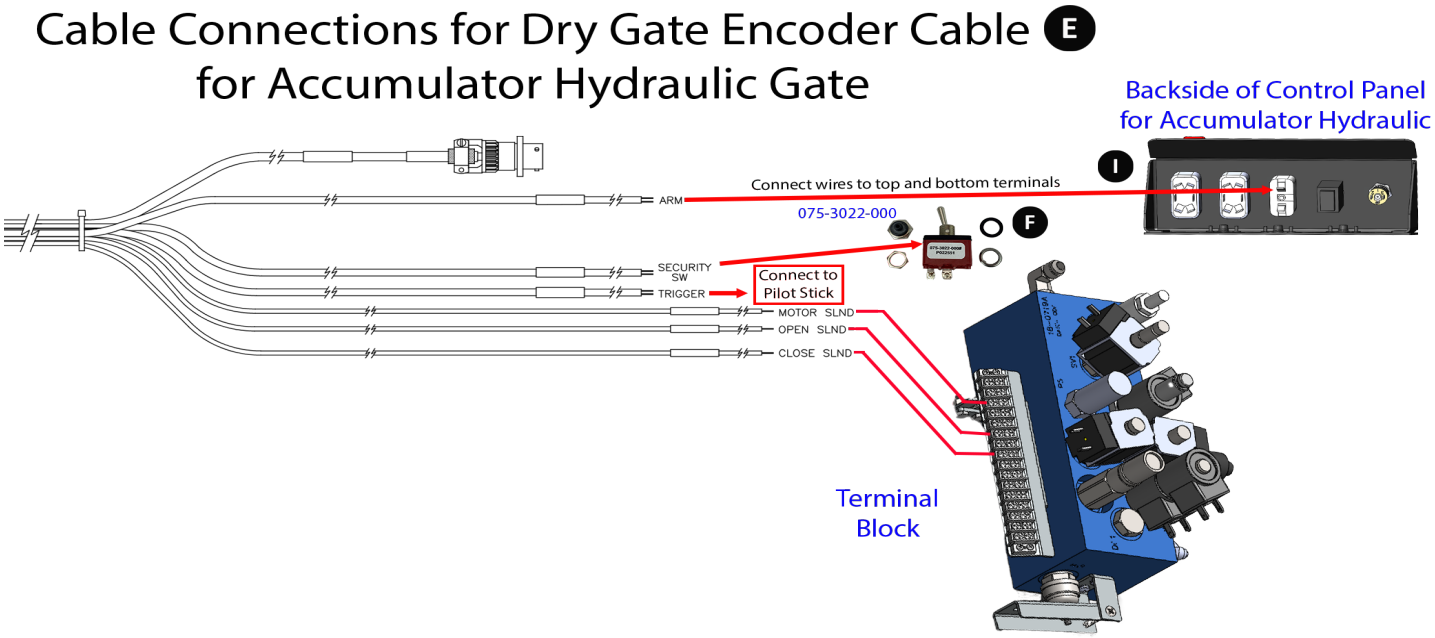


Figure 2: Display of How to Connect the Wires of Cable E for an Accumulator Hydraulic Gate

Terminal Block Connection Steps

1. Part E connects (in part) to the TERMINAL BLOCK (connections panel).
2. Connect part E's MOTOR SLND wire to the TERMINAL BLOCK #3 terminal.
3. Connect part E's OPEN SLND wire to PROP VALVE #6 terminal and part E's CLOSE SLND wire to PROP VALVE #8 terminal.

Control Panel Connection Steps

1. Part E connects (in part) to the backside of the part I.
2. Connect part E's ARM cables to #1 and #2 terminals of ARM SWITCH on the backside of part I.

Pilot Stick Connection Steps

1. Connect part E's TRIGGER cable to the pilot stick.

Security Switch Connection Steps

1. Connect part E's SECURITY SW wire to part F.

DRY FLOW COCKPIT CONTROLS INSTALLATION

1. Install the Transland part #27676 or part #27677 3-switch mounting panel.
2. Install part F so that mechanics/technicians on the ground can work safely around the gate.
3. Ensure all cockpit switches are easily accessible to the pilot.

Table 2: Arm, Security, and Trigger Switches

Switch	Description/Usage
Arm	To ensure unintentional use of the trigger switch does not activate the gate, the Arm switch must be OFF until the pilot nears the work area. When ON the system is pre-energized in preparation of operation of the gate by the trigger switch.
Security	The Security switch disables the IF3 system from making any commands to the gate (it is effectively a gate isolation switch). When ON, the gate cannot be activated, ensuring that it is, for example, safe for a mechanic/technician to work on or around the gate.
Trigger	When the Arm switch is ON, and the Security switch OFF, the trigger switch activates the gate. If the operator is applying at a constant rate, he/she will press and hold the trigger switch when entering the polygon (if the trigger switch is wired to the joystick, and on a momentary switch), and release it when exiting.

Technical Support

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