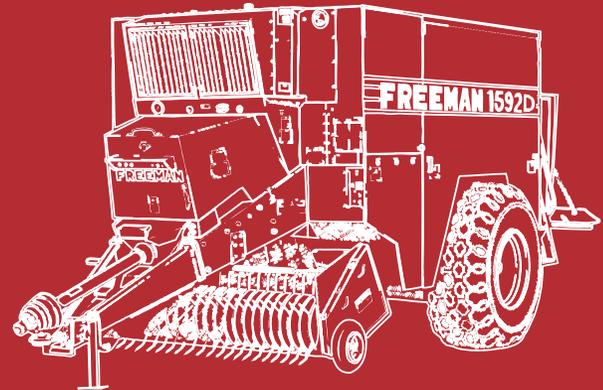


FREEMAN

1592 In Cab Monitor (ICM) QUICK START GUIDE

Refer to PB1592OP09 Operators Manual for additional information on controls





SAFETY

Allied Systems Co. is concerned with safety. Freeman Equipment is furnished with safety features. Even with these safety features, personal injury can still occur if the operator is careless when operating or maintaining the machine. There are “CAUTION,” “DANGER,” and “BE CAREFUL” decals on the machine. Read and pay attention to the decals. Following is a list of precautions that should be taken to help prevent personal injury:

1. KEEP ALL SHIELDS IN PLACE.
2. SHUT OFF TRACTOR ENGINE BEFORE ADJUSTING, LUBRICATING, CLEANING OR SERVICING THE BALER.
3. WAIT FOR ALL MOVEMENT TO STOP BEFORE SERVICING BALER.
4. KEEP HANDS, FEET, AND CLOTHING AWAY FROM POWER DRIVEN PARTS.
5. KEEP ALL SHIELDS INSTALLED AND KEEP CLEAR OF THE P.T.O. DRIVE LINE.
6. KEEP ALL OTHERS OFF BALER.
7. USE APPROPRIATE SIGNS OR WARNING LIGHTS WHEN OPERATING ON HIGHWAYS.
8. MAKE CERTAIN EVERYONE IS CLEAR OF BALER BEFORE ENGAGING P.T.O.
9. DO NOT RIDE ON ANY PART OF THE BALER WHILE IN OPERATION.
10. KEEP HANDS AND FEET CLEAR OF PICKUP.
11. KEEP HANDS AWAY FROM KNOTTER WHEN BALER P.T.O. DRIVE IS ENGAGED.
12. PERIODICALLY CHECK ALL NUTS AND BOLTS FOR TIGHTNESS.
13. ALWAYS USE LIGHTS FOR NIGHT WORK.
14. AS A SAFETY PRECAUTION, IT IS RECOMMENDED THAT AN “ABC” FIRE EXTINGUISHER BE CARRIED ON THE BALER AT ALL TIMES. IT IS ALSO RECOMMENDED TO CARRY A FOUR GALLON WATER CONTAINER WITH PUMP, OR AS REQUIRED BY LOCAL AND STATE LAW.
15. AVOID LOOSE CLOTHING WHICH CAN EASILY BE CAUGHT IN MOVING PARTS.
16. REMEMBER, ‘SAFETY’ IS ONLY A WORD UNTIL IT IS PUT INTO PRACTICE.

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ICM PRECAUTIONS

General Safety Regulations

Work on the hydraulics control electronics may only be carried out by trained personnel who are well-acquainted with the control system, the machine and its safety regulations.

⚠ WARNING

Mounting, modification, repair and maintenance must be carried out in accordance with the manufacturer's regulations. The manufacturer has no responsibility for any accidents caused by incorrectly mounted or incorrectly maintained equipment. The manufacturer does not assume any responsibility for the system being incorrectly applied, or the system being programmed in a manner that jeopardizes safety.

⚠ WARNING

Damaged product may not be used. If the control system shows error functions or if electronic modules, cabling or connectors are damaged, the system shall not be used.

⚠ WARNING

Electronic control systems in an inappropriate installation and in combination with strong electromagnetic interference fields can, in extreme cases, cause an unintentional change of speed of the output function.

NOTICE

As much as possible of the welding work on the chassis should be done before the installation of the system. If welding has to be done afterwards, the electrical connections on the system must be disconnected from other equipment. The negative cable must always be disconnected from the battery before disconnecting the positive cable. The ground wire of the welder shall be positioned as close as possible to the place of the welding. The cables on the welding unit shall never be placed near the electrical wires of the control system.

ICM PRECAUTIONS

Construction Regulations

CAUTION

The vehicle must be equipped with an emergency stop which disconnects the supply voltage to the control system's electrical units. The emergency stop must be easily accessible to the operator. The machine must be built if possible, so that the supply voltage to the control system's electrical units is disconnected when the operator leaves the operator's station.

Safety During Installation

CAUTION

Incorrectly positioned or mounted cabling can be influenced by radio signals which can interfere with the functions of the system.

Safety During Start-Up

WARNING

The machine's engine must not be started before the control system is mounted and its electrical functions have been verified. Ensure that no one is in front, behind or nearby the machine when first starting up the machine. Follow the instructions for function control in the Start-up section.

Safety During Maintenance And Fault Diagnosis

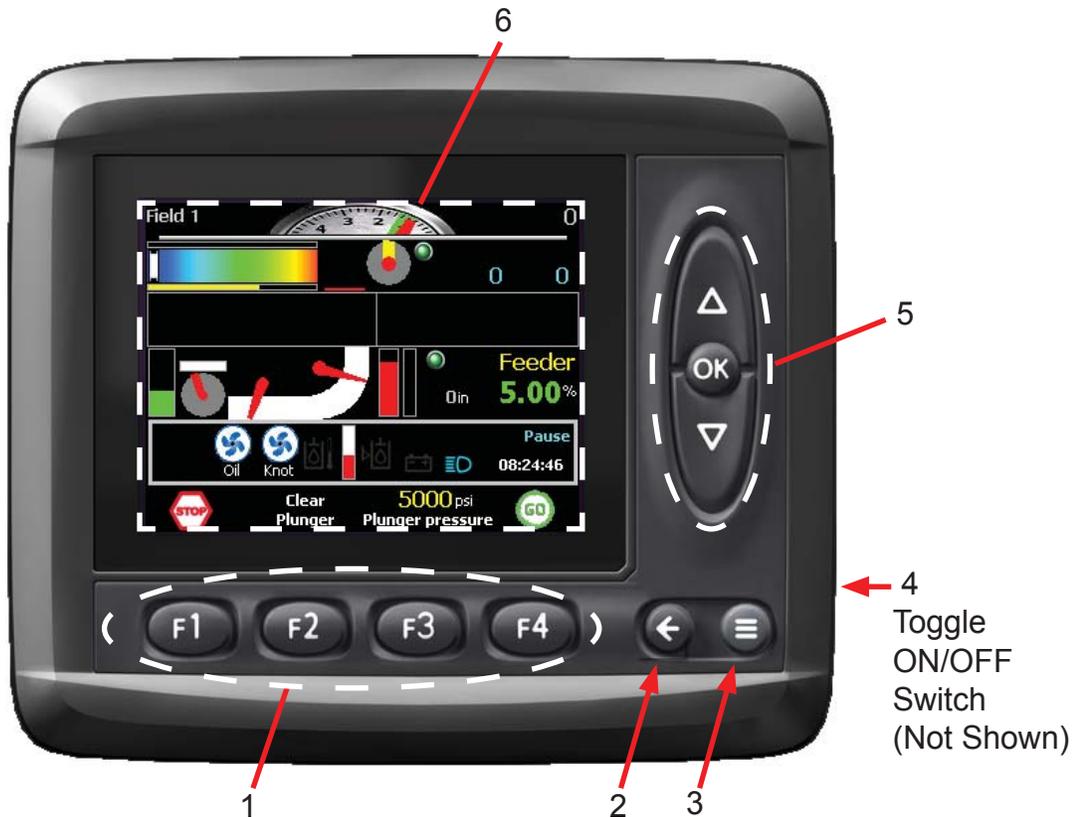
CAUTION

Ensure that the following requirements are fulfilled before any work is carried out on the hydraulics control electronics.

- The machine cannot start moving.
- Functions are positioned safely.
- The machine is turned off.
- The hydraulic system is relieved from any pressure.
- Supply voltage to the control electronics is disconnected.



MONITOR OVERVIEW



MONITOR OVERVIEW

1. Function Buttons (activates function above button)
2. Navigation Button (scrolls through operator screens)
Press and hold to return to main Baling Screen
3. Menu Button (**Read and understand Operating System Manual before use**).
4. Toggle Switch (Monitor and Baler Power ON/OFF)
5. Input Buttons (changes and sets functions)
6. Display Screen



BASIC BALING



BASIC BALING

1. Control Output Disable
2. Target Plunger Pressure
3. GO (Start Baling) / PAUSE
4. % Tension Pressure (100%=MAX)
5. Manual Baler Function (see Page 10)
6. Current Bale Length
7. Bale Position in Chamber
8. Bale Count
9. Tying Next Cycle (See Tie Knot NOW / NEXT on Page 10).
10. Average Feed Fork Revolution Per Plunge (averages previous 5 plunges).
11. Feed Fork Position
12. Plunger Pressure
13. Current Baling Field (see Page 14)
14. Plunger Position
15. Feeder Indicator
16. Pickup Indicator

START

- A. Turn monitor on.
- B. Set plunger pressure. Press **F3** (Plunger Pressure) and use **▲▼** to adjust and OK to select.
- C. Press **←** to navigate to AUTO STATISTICS screen. Set bale length and verify tension control is set to auto. Press and hold **←** to return to bale screen.
- D. Engage tractor PTO and slowly increase RPM. Press **F4** (GO) to start baler.

STOP

- Press **F4** (PAUSE) to pause baling. Baler will finish it's current cycle before stopping. Disengage PTO and/or turn off tractor.
- Press **F1** (STOP) to stop baling and disable controller. Disengage PTO. **ONLY USE FOR QUICK SHUT DOWN IF NEEDED.**

TIP: Use  Average Feed Fork Revolution gauge at top of monitor to optimize performance.

1 = optimum, 4 = too slow (increase tractor speed).



ADVANCED BALING



ADVANCED BALING

1. *Clear Plunger (extends plunger). Will display Crop Prediction above  if selected in Functions and Preferences Menu (See Page 19 for more information).
- 2.** Baler Sequence (see below)
3. Green Indicator Light = Needles in Home Position
4. Current Bale Flake Count
5. Previous Bale Flake Count
6. Green Indicator Light = Knotter in Home Position
7. Knotter Position Indicator
8. Full Chamber Paddles Indicator
9. Average Plunger Pressure for Selected Field
10. Target Plunger Pressure
11. Pickup Speed Indicator
- 12.*** Feeder Pressure Indicator
- 13.*** Feed Fork Pressure Indicator (Current)
14. Feed Fork Revolution Pressure Indicator (Previous)

*** Pressure
Green = Safe
Yellow = Optimal
Red = Near Stalling

*  **Crop Prediction**

NOTICE

Use only in heavy silage windrows. Turn off before exiting heavy silage windrow or baler can be damaged.

** Forks Cycle (material entering chamber)
Feed Forks Stop (chamber full)
Plunger Extending - Plunger Retracting
Knotter Tying
Pause (indicates start of new cycle)
Disabled (all functions disabled)



SERVICE INDICATORS AND AUDIBLE ALARMS



SERVICE INDICATORS AND AUDIBLE ALARMS

1. Accumulator Low Pressure Warning
(will illuminate until tractor PTO is engaged)
2. Oil Cooling Fan ON/OFF (auto controlled)
3. Knotter Fan ON/OFF (see Page 10)
4. Oil Over Temperature Indicator
5. Oil Temperature Indicator
6. Low Oil Indicator
7. Battery Low Voltage Indicator
8. Work Lights ON/OFF (see Page 10)
9. Time

| Audible Alarms |
|--|
| One Long Beep = Tie Knot |
| Two Beeps = Bale Drop |
| Seven Short Beeps = Pickup Plugging |

NOTE: There are many warning messages that may pop up on the screen. Please see Baler Operating System Manual for information. Press  to acknowledge warnings.



MANUAL OPERATIONS

Bale Screen



Auto Statistics



MANUAL OPERATIONS

1. Clear Plunger press and hold  to extend plunger. The plunger will not retract automatically unless Drift Compensation is turned ON (refer to Baler Operating System Manual).
2. Function Select (OK) use   buttons to scroll through functions (Feeder, Plunger, Feed Forks and Knotter) and press  to select. Use   buttons to operate. (Knotter can only be operated from the FUNCTIONS screen).  button = Forward or Extend.  button = Reverse or Retract.
3. Tie Knot NEXT / NOW press  once to activate NEXT and tie off current bale after next full-chamber plunger stroke or press  twice to activate NOW and tie off current bale after the next Feed Fork cycle. “GO” must be activated and bale being tied must exceed 2 flakes.

WARNING

The baler will automatically perform a tie cycle even if material isn't being fed into baler. When illuminated, bale will be tied on next cycle. Stay Clear from baler when operating to prevent serious injury or death.

4. Tension Control press  to switch between Auto and Manual tension control. When in Manual,    buttons control tension.



MANUAL OPERATIONS CONTINUED

Functions Screen



Functions & Preferences Menu



MANUAL OPERATIONS CONTINUED

5. Open Rails press  to open tension rails. Press again to close.
6. Functions and Preferences Menu press  to access the Functions and Preference Menu.
7. Knotter Position indicates position of knotter during cycle and when knotter and needles are in the home position. Use Function Select to operate knotter (see above).
8. Feeder press  to toggle the Feeder to the “ON” and “OFF” position.
9. Clear Plunger press and hold  to extend plunger. The plunger will not retract automatically unless Drift Compensation is turned ON (refer to Baler Operating System Manual).
10. Function Select (OK) use   buttons to scroll through functions (Feeder, Plunger, Feed Forks and Knotter) and press  to select. Use   buttons to operate. (Knotter can only be operated from the FUNCTIONS screen).  button = Forward or Extend.  button = Reverse or Retract.



FIELD COUNTS



FIELD COUNTS

1. *Reset Count (hold until it resets)
2. Target Bale Length
3. *Adjust Count (hold  and press  or  to adjust current field).
4. Program Version Number
5. Run Hours (“GO” is activated)
6. Field press  to change field
7. Life Hours (Power ON)
8. Life Bales (total life time bale count)
9. Baler Serial Number
- 10.*Field Count

* For Selected Field



AUTO STATISTICS



AUTO STATISTICS

1. Tie Knot Next / Now allows selection of two types of methods for triggering the knoter: NEXT and NOW (both must exceed 2 flakes to operate). * See Warning Below.
2. Zero Bale Length
3. Set Tension Control (Auto / Manual)
4. Knotter Fan
5. Average Feed Fork Cycles Per Plunge
6. Plunger Statistics
7. Bale Strokes/ Minute (current bale)
8. Average Bale Flake Length
9. Work Lights
10. Plunger Position: **Stops** = where plunger stopped
Cushions = where plunger is set to stop.
11. Tension Monitor (compare Average Field Tension % To Current Tension % to gauge moisture)

* **⚠ WARNING**

The baler will automatically perform a tie cycle even if material isn't being fed into baler. When illuminated, bale will be tied on next cycle. Stay Clear from baler when operating to prevent serious injury or death.



Allied Systems
COMPANY

Current Pressure
Current Tension %
Average Field Tension % (reset by pressing **F2** from the Field Count screen (see Page 13))

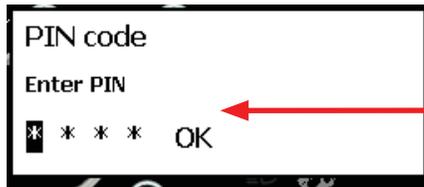


FUNCTIONS



FUNCTIONS

1. Functions & Preferences Menu
2. Machine Settings
(Read and understand Operating System Manual before use)



Enter Pin Number here (see operators manual for password)

Press  twice to return to operators screen.

3. Control system voltage (typical operating range is 12v and 14v)
4. Oil Temperature (optimal operating temperature is 150° F (65°C) to 180° F (82° C))
5. Needle Home Position (red when in home position)
6. Knotter Home Position (red when in home position)



FUNCTIONS & PREFERENCES MENU



Use to scroll up and down in the menu to display all the items. The items selected for adjustment appear inside the rectangular box.

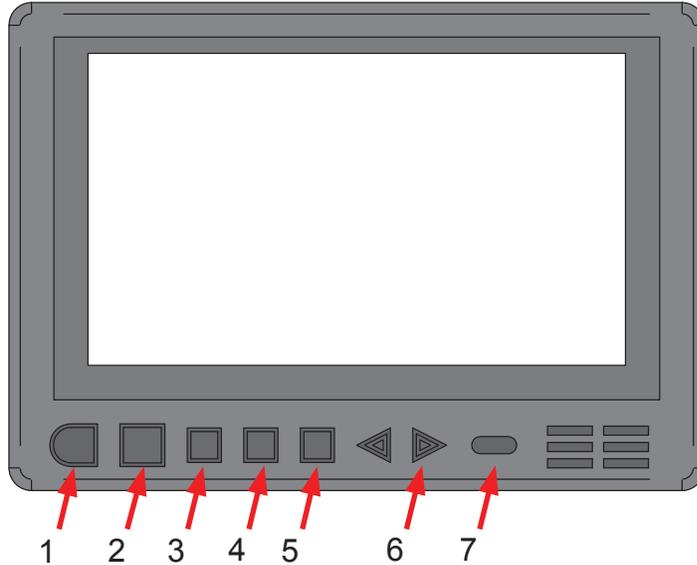
Use , , , to adjust the appropriate item when selected inside the rectangular box..

FUNCTIONS & PREFERENCES MENU

1. Use , , ,  to adjust the appropriate item when selected in side the rectangular box..
2. Tension Control
3. Feed Fork Stall Warning
4. Feed Fork Dwell
5. Bale Drop Chamber Length
6. Crop Prediction
7. Feeder ON or OFF
8. Knot Cycle Buzzer
9. Bale Drop Buzzer
10. Swap Clear Plunger and Crop Prediction Button
11. Pickup Stall Alarm
12. Auto Pickup Unplug
13. Change Field Name
14. Zero Current Bale
15. Course Bale Length Adjustment
16. Fine Bale Length Adjustment
17. Activate Bale Length Adjustment
18. Push  to scroll up in menu.
19. Push  to return to Bale Screen.
20. Push  to scroll up in menu.



REMOTE VIEW MONITOR



REMOTE VIEW MONITOR

Please consult Monitor and Camera operators manual for more information.

1. Power/Menu
Press to turn screen ON.
Press again to access Menu.
Press and hold for 1 second to turn OFF monitor.
- 2.* Quad (Picture in Picture) Select
- 3.* Auto Scan
- 4.* Camera Select
- 5.* AV Select
- 6.* CDS Sensor
- 7.* Camera Input

* 2-7 are only used for multiple camera systems.

Recommended Operation

1. Monitor turns on when baler operation system is powered on.
2. Use camera select button if image is not displayed.
3. Clean / Wipe camera regularly to maintain a crisp image without interference from dust.
4. If power is on with no display, check cable/power connections and press Camera Select (4) to cycle through cameras.



WARNING MESSAGES

| WARNING / SYMPTOM | CAUSE |
|---|---|
| <p>Critical </p> <p>Outputs are disabled</p> <p>A kill button has been hit. Press the "GO" button twice to reset.</p> <p>OK </p> | <p>This announcement will appear if either the "stop" button on the screen has been pushed or any of the three red "disable" buttons on the baler have been pushed.</p> |
| <p>Critical </p> <p>Low Accumulator Pressure</p> <p>Check accumulator pre-charge. Extreme damage to pump and cylinder will occur if operated with low pressure.</p> <p>OK </p>  | <p>The low accumulator pressure switch dropped below 200psi.</p> |
| <p>Warning </p> <p>Knotter is not home</p> <p>Check knotter position or knotter home sensor.</p> <p>OK </p> | <p>If the knotter is not home when the plunger is signaled to extend in an automatic plunge cycle, this warning will appear.</p> |

Please refer to 89-015 Freeman 1592 Baler Operating System Manual for additional Information.

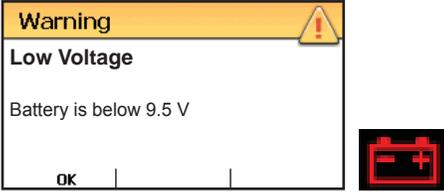
| WARNING / SYMPTOM | CAUSE |
|--|--|
| <p>Warning 1/2 </p> <p>Needles are not home</p> <p>Check needle rack position or needle home sensor</p> <p>OK Next </p> | <p>If the needles are not home when the plunger is signaled to extend in an automatic plunge cycle, this warning will appear.</p> |
| <p>Warning </p> <p>Pickup is plugging</p> <p>Pickup clutch is slipping. Auto unplug may be set up in feeder settings.</p> <p>OK </p> | <p>The pickup stall alarm will show if the pickup speed drops below the “pickup plugging speed” (F2 in Feeder settings 3 screen) while in auto baling sequence.</p> |
| <p>Warning </p> <p>Feeder pressure High</p> <p>Plugging pressure may be adjusted under the feeder adjust group.</p> <p>OK </p> | <p>This warning will appear if the feed fork pressure exceeds a pre-set “plunging pressure” (F3 in the Feed Fork screen). This is a visual warning and will not start or stop any functions.</p> |



| WARNING / SYMPTOM | CAUSE |
|---|--|
| <p>Warning </p> <p>Feed fork plugging</p> <p>Feed fork or knotter has reached plugging pressure.</p> <p>OK</p> | <p>This warning will appear if the feeder pressure exceeds a pre-set “feeder plugging pressure” (F3 in the Feeder settings 1 screen). This is a visual warning and will not start or stop any functions.</p> |
| <p>Warning </p> <p>Plunger is not home</p> <p>Check for plunger drifting. Retract plunger or turn on plunger drift compensation.</p> <p>OK</p> | <p>“GO” has been pushed when plunger and plunger is more than 5% beyond the “plunger retract stop learned” position.</p> |
| <p>Warning </p> <p>Plunger Stalled</p> <p>Feeder will resume after plunger clears chamber</p> <p>OK</p> | <p>The warning will appear if the plunger takes more than a pre-set time (Stall time – set up under F1 in the plunger position screen) to fully extend.</p> |

| WARNING / SYMPTOM | CAUSE |
|--|--|
| <p>Warning </p> <p>Flakes are too short</p> <p>Verify bale length is correct. Minimum length may be set under "bale length" adjust group.</p> <p>OK</p> | <p>This message will appear if the current bale's average flake length gets below the user defined length. The default value is 1 inch.</p> |
| <p>Warning </p> <p>Low Oil</p> <p>Check Hydraulic Oil</p> <p>OK</p>  | <p>If the oil level drops below the low oil switch (front center of the tank right behind the cooling fan motor), it will open causing the low oil message to appear and disabling the machine after completing the current cycle.</p> |
| <p>Warning </p> <p>Oil overheat</p> <p>Check oil cooler fan operation.</p> <p>OK</p>  | <p>The oil temperature is at or above the Overheat Temp as set on the Oil Cooler screen.</p> |



| WARNING / SYMPTOM | CAUSE |
|--|---|
|  <p>Warning Low Voltage Battery is below 9.5 V OK</p> | <p>The low battery voltage warning will display if any of the IQAN modules are supplied with less than 9.5v. Low battery image will illuminate when either of the XA2 module's supply voltage drops below 11.5 volts.</p> |

| Conversion Table | | | | | | | | | |
|------------------------------|---|-------------------------|--------------------------|-------------------------|--------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| Common Abbreviations: | ft = feet, in = inches, cm = centimeters, m = meter | | | | | | | | |
| Meter/Inches: | 1.00 m = 39.37 in 1.50 m = 59.05 in 2.00 m = 78.74 in | | | | | | | | |
| Feet = Inches = Centimeters: | <table> <tr> <td>1 ft = 12 in = 30.48 cm</td> <td>5 ft = 60 in = 152.40 cm</td> </tr> <tr> <td>2 ft = 24 in = 60.96 cm</td> <td>6 ft = 72 in = 182.88 cm</td> </tr> <tr> <td>3 ft = 36 in = 91.44 cm</td> <td>7 ft = 84 in = 213.36 cm</td> </tr> <tr> <td>4 ft = 48 in = 121.92 cm</td> <td>8 ft = 96 in = 243.84 cm</td> </tr> </table> | 1 ft = 12 in = 30.48 cm | 5 ft = 60 in = 152.40 cm | 2 ft = 24 in = 60.96 cm | 6 ft = 72 in = 182.88 cm | 3 ft = 36 in = 91.44 cm | 7 ft = 84 in = 213.36 cm | 4 ft = 48 in = 121.92 cm | 8 ft = 96 in = 243.84 cm |
| 1 ft = 12 in = 30.48 cm | 5 ft = 60 in = 152.40 cm | | | | | | | | |
| 2 ft = 24 in = 60.96 cm | 6 ft = 72 in = 182.88 cm | | | | | | | | |
| 3 ft = 36 in = 91.44 cm | 7 ft = 84 in = 213.36 cm | | | | | | | | |
| 4 ft = 48 in = 121.92 cm | 8 ft = 96 in = 243.84 cm | | | | | | | | |
| Meter To Inch Conversion: | $\text{___ Meter} \cdot 39.37 = \text{___ inch}$ $\text{___ Inch} \cdot 0.05 = \text{___ Meter}$ | | | | | | | | |



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