



THE ALL NEW

[SHIFTA]

Operators manual

**Shifta 400mm
3m 4m 5m 6m**

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IMPORTANT

Important

Read, understand and obey these safety rules and operating instructions before operating this machine.

Only trained and authorized personnel shall be permitted to operate this machine. This manual should be considered a permanent part of your machine and should remain with the machine at all times. If you have any questions, please call Mace Industries.

Contact us

Mace Industries Limited
Units 1-3 Macadam Road
Earlstrees Industrial Estate
Corby
NN17 4JN

Web: www.maceindustries.co.uk
Tel: 01536 206 600
Fax: 01536 206173

SAFETY RULES



Danger

Failure to obey the instructions and safety rules in this manual will result in death or serious injury.

Do Not Operate Unless:

You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

Know and understand the safety rules before going on to the next section.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

You read, understand and obey:

Manufacturer's instructions and safety rules—safety and operator's manuals and machine decals employer's safety rules and worksite regulations applicable to governmental regulations.

ELECTROCUTION HAZARD

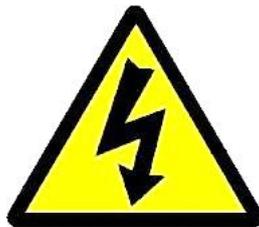
Electrocution Hazards

This machine is not electrically insulated and will not provide protection from contact with or proximity to electrical current.

Do not operate the machine during lightning or storms.

Do not use the machine as a ground for welding.

Ensure safe routing of power cable to minimise risk of electrocution.



Explosion and Fire Hazards

Do not operate the machine in hazardous locations or locations where potentially flammable or explosive gases or particles may be present.



SETUP HAZARD

Setup Hazards

Check work area for overhead obstructions or other possible hazards.

Do not use the machine whilst under the influence of alcohol or drugs.

Ensure machine is securely fastened at the top and brakes are on before use.

Do not alter or disable machine components that in any way affect safety and stability.

Do not replace items critical to machine stability with items of different weight or specification.

Be aware of ground surface prior to installation.

Do not use the machine on a moving or mobile surface or vehicle.

Ensure all tyres are in good condition and cotter pins are properly installed.

Do not ride on machine.

Do not alter or disable limit switches or remote handset.

Do not operate the machine in strong or gusty winds.

FALL HAZARD

Fall Hazards

Always erect a safety barrier to prevent access through underside of machine. Failure to do so could result in serious injury.



Do not lean over machine while belt is moving.

Do not ride on machine.

Bodily Injury Hazard

Use common sense and planning when installing and operating the machine.

Keep hands and limbs away from moving belt.

Always wear correct PPE.



COMPONENT DAMAGE HAZARD

Component Damage Hazards

When using a generator, ensure it is fitted with a voltage regulator before use.

Do not over load the machine 200kg **MAX** belt load.

Do not use machine as a ground for welding.

Damaged Machine Hazard

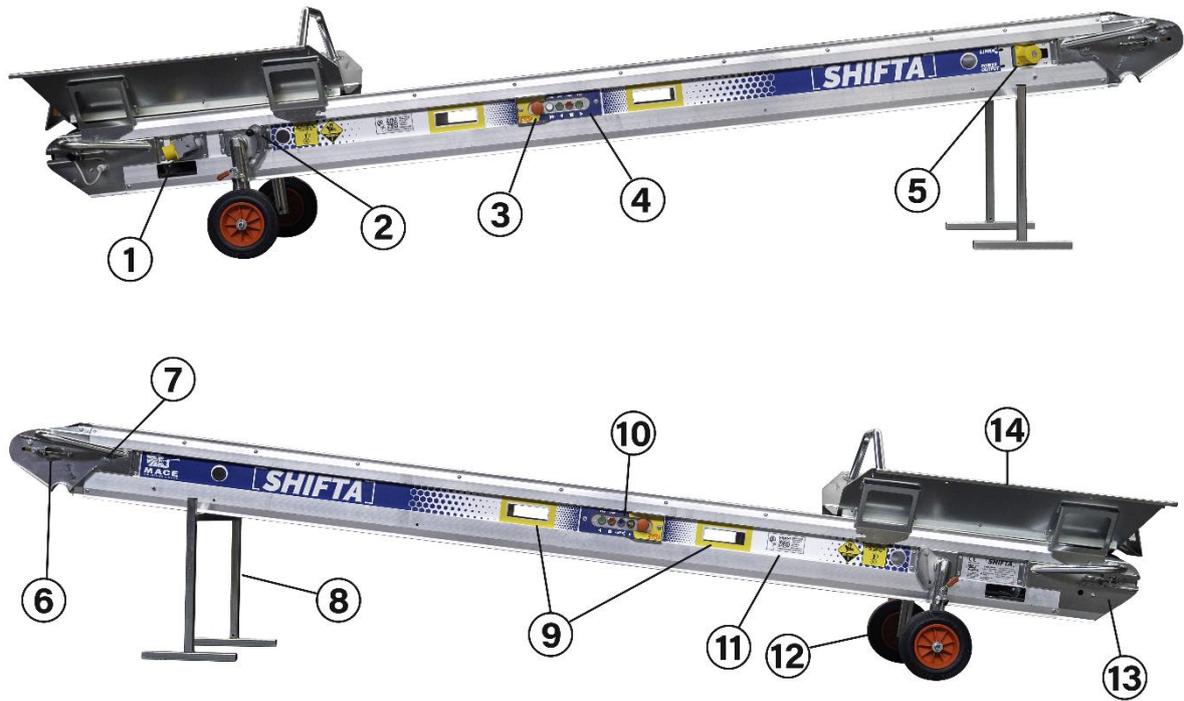
Do not use a damaged or malfunctioning machine.

Conduct a thorough pre-operation inspection of the machine and test all functions before each work shift. Immediately tag and remove from service a damaged or malfunctioning machine.

Be sure all maintenance has been performed as specified in this manual and the appropriate Mace Industries service manual.

Be sure all decals are in place and legible

LEGEND



1: Power / Comms link INPUT	8: Conveyor trestle
2: Bogey locking pin	9: Forklift holes
3: Emergency stop	10: Forward/ Stop/ Link/ Voltage indicator
4: Forward/ Stop/ Reverse/ Twin Speed	11: Operator manual QR Code
5: Power / Comms link OUTPUT	12: Wheels
6: Top adjuster	13: Drive drum
7: Adjuster pivot bolt	14: Hopper

CONTROLS



CONTROL	DESCRIPTION
Emergency Stop	Emergency Stop
Speed	Two-Speed Control (Fast/ Slow)
Rev	Conveyor Reverse
Stop	Conveyor Stop
Fwd	Conveyor Forward



CONTROL	DESCRIPTION
Fwd	Conveyor Forward
Stop	Conveyor Stop
Link	Conveyor Link activate
Pwr	Conveyor Input power
Emergency Stop	Emergency Stop

PRE-OPERATION INSPECTION



Do not operate unless:

You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

Know and understand the pre-operation inspection before going on to the next section.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

Fundamentals

It is the responsibility of the operator to perform a pre-operation inspection and routine maintenance.

The pre-operation inspection is a visual inspection performed by the operator prior to each work shift.

The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests.

The pre-operation inspection also serves to determine if routine maintenance procedures are required. Only routine maintenance items specified in this manual may be performed by the operator.

Refer to the list on the next page and check each of the items and locations for modifications, damage or loose or missing parts.

A damaged or modified machine must never be used. If damage or any variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications. After repairs are completed, the operator must perform a pre-operation inspection again before going on to the function tests.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications.

Pre-Operation Inspection tasks

Be sure that all decals are legible and in place. See Decals section.

Be sure the main belt is properly tensioned and in good condition.

Be sure the correct accessories are present. See parts list.

Check the following components or areas for damage, modifications and improperly installed or missing parts:

- Electrical components
- Wiring
- Power sockets
- Linking sockets
- Belt rollers
- Drive motor
- Tyres and wheels
- Brakes
- Power on lights
- Nuts, bolts and other fasteners

Check entire machine for:

- Cracks in welds or structural components
 - Dents or damage to the machine
 - Be sure that all structural and other critical components are present and all associated fasteners and pins are in place and properly tightened.
-

MAINTENANCE

Observe and Obey

Only routine maintenance items specified in this manual shall be performed by the operator.

Scheduled maintenance inspections shall be completed by qualified service technicians, according to the manufacturer's specifications and the requirements specified in the responsibility's manual.

Maintenance symbols legend

NOTICE

The following symbols have been used in this manual to help communicate the intent of the instructions. When one or more of the symbols appear at the beginning of a maintenance procedure, it conveys the meaning below.



Indicates tools will be needed to carry out this operation.

Check main belt tension and tracking:



Maintaining the proper belt tension is essential to good machine performance and service life. Operating the machine with an improper belt tension can damage machine components.

NOTICE

Check belt tension whilst power is off.

1. The main belt will only need to be tensioned if it is slipping under load.
2. At the head of machine. Loosen the left M12 thru bolt holding the return roller.
3. Once the M12 thru bolt is loosened, use a 17mm socket or spanner to turn the M10 tensioning bolt. Rotate two full turns. Then retighten the M12 thru bolt.
4. Repeat step 3 to the right side.
5. **Turn on conveyor and run belt forwards.**
6. Observe the belt tracking.
7. If the belt is drifting to the right, loosen the right hand M12 thru bolt and turn the M10 tensioning bolt clockwise. Rotate two full turns. Then retighten the M12 thru bolt.
8. Repeat left or right as needed.
9. Tighten all bolts and check.

Check wheel brakes

Maintaining the brakes is an essential aspect of machine maintenance. Whilst erecting a machine the operator depends on the brakes functioning.

NOTICE

Check brake function whilst machine is flat on the ground.

1. Move the brake arm back and forth to its extent of travel. Ensure it moves freely.
 - If brake won't move or is stiff grease and retry.
 2. Ensure wheel cannot be moved whilst brake is operated.
-

Check belt roller condition

Ensuring no muck or debris is built up on or around the rollers is essential to ensure good performance and service life.

NOTICE

Check belt rollers whilst power is off.

1. Lift belt at base and top of machine.
 2. Inspect the condition of steel pitching rollers.
 3. Move along the machine checking the rollers are free moving and free of debris or build up.
 4. If a roller is seized, replace straight away as this can damage the belt and cause tracking issues.
-

Scheduled Maintenance

Maintenance performed quarterly and annually must be completed by a person trained and qualified to perform maintenance on this machine according to the procedures found in the service manual for this machine.

Machines that have been out of service for more than three months must receive the quarterly inspection before they are put back into service.

FUNCTION TESTS



Do not operate unless:

You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform function tests prior to operation.

Know and understand the function tests before going on to the next section.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

Fundamentals

The function tests are designed to discover any malfunctions before the machine is put into service.

The operator must follow the step-by-step instructions to test all machine functions.

A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

After repairs are completed, the operator must perform a pre-operation inspection and function tests again before putting the machine into service.

Function Test Tasks – Individual conveyor

1. Select a test area that is firm level and free of obstruction.
2. Plug power into power input socket.
 - Observe the centre red button on control box. This button should be illuminated.
 - The voltage indicator on the left-hand side of the conveyor will display the input voltage.

At the controls:

3. Press the emergency stop button on the right-hand side.
 - The centre red button will slowly flash indicating a stop circuit function.
4. Press forward and reverse buttons.
 - Belt should not move.
5. Release emergency stop by rotating it clockwise until it releases and clicks out.
 - Red light should return to being permanently illuminated.
6. Press the emergency stop button on the left-hand side.
 - The centre red button should flash slowly indicating a stop circuit function.
7. Press forward and reverse buttons.
 - Belt should not move.
8. Release emergency stop by rotating it clockwise until it releases and clicks out.
 - Red light should return to being permanently illuminated.

Test the forward and reverse functions:

9. Press the forward button.
 - Buzzer will sound for 2 seconds.
 - The belt should move forwards.
10. Press the fast/ slow button.
 - Belt will speed up.
11. **Wait 5 sec** then press the fast/ slow button.
 - Belt will slow down.
12. Press the centre stop button.
 - The belt should stop.
13. Press and **hold** the reverse button.
 - The belt should move in reverse after 2 seconds.
14. Release reverse button.
 - The belt should stop moving.

If the machine fails any of these function tests, it should be removed from service and repaired.

Function Test Tasks – Multiple conveyors

1. Select a test area that is firm level and free of obstruction.
2. Plug power into power input socket of first conveyor.
 - Observe the centre red button on control box. This button should be illuminated.
 - The voltage indicator on the left-hand side of the conveyor will display the input voltage.
 - Ensure that the link procedure has been followed correctly.

At the controls:

3. Press the emergency stop button on the side of the first conveyor.
 - The centre red button on every conveyor will slowly flash indicating a stop circuit function.
4. Press forward and reverse buttons on any conveyor.
 - Belts should not move.
5. Release emergency stop by rotating it clockwise until it releases and clicks out.
 - All red lights should return to being permanently illuminated.
6. Press the emergency stop button on the side of another conveyor in the line.
 - The centre red button on all conveyors should flash slowly indicating a stop circuit function.

Press forward and reverse buttons.

- Belt should not move.

Release emergency stop by rotating it clockwise until it releases and clicks out.

- Red light should return to being permanently illuminated.

Test the forward and reverse functions:

7. Press the forward button on first conveyor.
 - Buzzer will sound for 2 seconds.
 - All belts will move forwards.
8. Press the fast/ slow button.
 - Belt will speed up on the single conveyor.
9. **Wait 5 sec** then press the fast/ slow button.
 - Belt on single conveyor will slow down.
10. Press the centre stop button.
 - All belts will stop.
11. Press and **hold** the reverse button.
 - The belt should move in reverse after 2 seconds. (Only the conveyor being operated will move in reverse)
12. Release reverse button.
 - The belt should stop moving.

Test link fault:

13. Once all tests have been carried out. A link fault test should be carried out. Press the link button on any conveyor in the line to the off position so the blue light turns off.
 - All conveyors in the line should have a rapidly flashing red light.
14. Once this is confirmed. Press the link button again to activate the link mode.
 - Blue light will illuminate and all conveyors will return to a solid red light

If the machine fails any of these function tests, it should be removed from service and repaired.

WORKPLACE INSPECTION



Do not operate unless:

You learn and practice the principles of safe machine operation contained in this operator's manual.

- 1 Avoid hazardous situations.
- 2 Always perform function tests prior to operation.
- 3 Always perform function tests prior to use.

4 Inspect the workplace.

Know and understand the function tests before going on to the next section.

- 5 Only use the machine as it was intended.

Fundamentals

The workplace inspection helps the operator determine if the workplace is suitable for safe machine operation. It should be performed by the operator prior to moving the machine to the workplace.

It is the operator's responsibility to read and remember the workplace hazards, then watch for and avoid them while moving, setting up and operating the machine.

Workplace Inspection

Be aware of and avoid the following hazardous situations:

- Bumps, floor obstructions or debris
- Slopes
- Unstable or slippery surfaces
- Overhead obstructions
- Hazardous locations
- Inadequate surface support to withstand all load forces imposed by the machine
- Wind and weather conditions
- The presence of unauthorized personnel
- Other possible unsafe conditions

OPERATING INSTRUCTIONS



Do not operate unless:

You learn and practice the principles of safe machine operation contained in this operator's manual.

- 1 Avoid hazardous situations.
- 2 Always perform function tests prior to operation.
- 3 Always perform function tests prior to use.
- 4 Inspect the workplace.
- 5 Only use the machine as it was intended.**

Fundamentals

The Operating Instructions section provides instructions for each aspect of machine operation. It is the operator's responsibility to follow all the safety rules and instructions in the operator's, safety and responsibilities manuals.

This conveyor was designed to transport solid (non-liquid/ non-dangerous) material such as stone, sand, rubble and soil. The material must be loaded responsibly and with skill by the operator as to not cause damage by overloading the conveyor.

Only trained and authorized personnel should be permitted to operate a machine. If more than one operator is expected to use a machine at different times in the same work shift, they must all be qualified operators and are all expected to follow all safety rules and instructions in the operator's safety and responsibilities manuals. That means every new operator should perform a pre-operation inspection, function tests, and a workplace inspection before using the machine.

Operating Instructions

1. Before installing the conveyor, plan your route. Ensure you have adequate man power to complete the set tasks.
3. Fold wheels down from transport position. Lift base of machine, pull black locking pin. Rotate wheels into position and let go of pin. The pin should engage into locking plate. Lower machine safely onto the ground. **Do not drop machine.**
- 4.



3. Manoeuvre the conveyor into position using correct manual handling techniques. Utilise the handles at the top and base of the conveyor to maximise grip when moving. When in position locate the conveyor onto the supplied trestle. This will allow the transported material to drop directly into the next conveyors hopper. Ensure that the brakes are applied at this point.



4. When in position, fit the hopper to base of machine. Align the slots both sides so they line up with the mounting pins. Pins are shown in **red**. Push hopper toward top of machine until the front mounting pin stops at the base of the slot. Then push down to lock hopper in place.



5. Once machine is in place. Plug in power supply at the base of the conveyor and start pre-operation checks



6. Once power is applied to the conveyor, the stop button will illuminate. The voltage indicator will also display the supply voltage. This indicates that the conveyor is ready to run.



7. The conveyor is now ready to use. Press FWD to run the conveyor. The buzzer will sound for 2 seconds, then the belt will move. If loading with a digger or skid steer, take care not to overload the hopper.



8. If only a single conveyor is to be used. Setup is complete.

When linking additional units, place the first conveyor in the line and work forwards from this unit. Repeat steps 1-6 of this manual for each conveyor. Take care to ensure the previous conveyor is discharging into the centre of the hopper of the next conveyor in the line. This will help minimise overspill.



9. When linking multiple units, it is a two-person operation. First start with the power supply. Connect the power to the first conveyor.



Then using the power linking lead supplied, plug the linking lead into the power output socket on the end of the conveyor then into the power input socket of the next conveyor. **Up to 5 conveyors can be powered off a single 5kVA supply.**



Ensure the power lead cannot get tangled in the moving belt.

Do not connect the power linking leads whilst the conveyor is in use.

11. Once the conveyor controls are linked, begin the process of switching the conveyors into LINK mode.

Every conveyor must have the LINK button pressed in and illuminated. **Except the last conveyor in the run.** The last conveyor in a chain must have the LINK button in the out position and not illuminated.



Start and mid conveyors in the run have illuminated LINK button



End conveyor of ANY run to have the LINK button out and not illuminated

Example:

If 5 conveyors have the controls linked. The first 4 conveyors will have the LINK button pressed and illuminated. The last conveyor in the chain will have the LINK button out and not illuminated.

This is the same if linking 2 or 20 conveyors.

12. The conveyor system will now be able to start and stop from any conveyor along the line. The **only** functions that are not linked are the FAST/ SLOW function and the REVERSE function.

The FAST/ SLOW function is not included in the control link due to varying angles being deployed. The steeper conveyors will generally run at a faster speed than the flat conveyors. This is to minimise any build up accumulating in the hopper.

13. When the Shifta conveyors are used in link function extreme care should be used if the discharge of the run cannot be seen by the operator. This is also applicable if any conveyor cannot be seen at any point of the chain.

Each conveyor is equipped with an audible buzzer the sounds before the belt moves. This ensures that any personnel near the unit upon start up have time to exit any hazard zones and operate the E-Stop.

If the entire chain of conveyors is not visible to the operator, a site-specific risk assessment must be carried out to assess the potential hazards that may occur from the operation.

If the discharge is not visible to the operator, the two-person team operating the conveyor chain must ensure that a hazardous situation cannot occur during the operation of the conveyors. This also requires a site-specific risk assessment to be carried out to assess the potential hazards that may occur from their operation.

14. If a blockage occurs during the LINK operation. Stop the conveyors. The blockage can then be identified and assessed. To aid unblocking individual conveyors, the reverse function is not linked when part of a chain of conveyors. To reverse a single conveyor, hold the reverse button on the blocked unit and the belt will reverse. **It is a dead man switch so it will only function when it is pressed.**

Once the blockage has been cleared, the linked units will function as normal from any conveyor control.

15. When disassembling the run of conveyors after a project. Plan the routes for each conveyor and use correct manual handling techniques. Clean each conveyor before transporting.

Disconnect power before attempting to move any SHIFTA conveyor

16. When the SHIFTA conveyors are stored. Fold the wheel bogey up into the locked position and stack the units to maximise space. Maximum 5 high.



FAULT MODES

When operating the Shifta conveyor it is important to recognise the specific fault modes displayed by the control panel. These allow the user to determine what is causing a fault or potential hazard.

There is three specific fault modes displayed via the control panel. These are communicated through the red LED stop button below (red arrow):



Fault mode 1:

A slow flash (1 flash per second) indicates an Emergency stop circuit activation. This could be an intentional operation via pressing the E-Stop. If no E-stop button is depressed it may be a wiring or button fault. – Contact Mace Industries to advise.

Fault mode 2:

A moderate flash speed (2 per second) indicates a link fault. This is caused by improper sequence of link buttons pressed. (Green arrow above). Check that the correct buttons are illuminated in the conveyor line. If the sequence is correct it will likely be a physical link cable fault.

Fault mode 3:

A rapid flash speed indicates a thermal cut out is active. This may be due to overloading the conveyor. It may also be due to failure of a bearing or winding within the drum motor. – Contact Mace Industries to advise.

TRANSPORT INSTRUCTIONS



Observe and Obey:

Common sense and planning must be applied to control the movement of the machine when moving it with a forklift.

The transport vehicle must be parked on a level surface.

The machines brakes must remain on whilst being transported.



Securing to Truck or Trailer for Transit:

Always check the machine wheel brakes are on in preparation for transport.

Inspect the entire machine for loose or unsecured items.

DO NOT OVER TIGHTEN STRAPS.

Excessive tension of the straps will cause damage to the machine.

SPECIFICATIONS

Model 400	3m	4m	5m	6m
Conveyor weight	123kg	138kg	153kg	168kg
Maximum belt load	200kg	200kg	200kg	200kg
Belt speed:				
• Fast	32m/min	32m/min	32m/min	32m/min
• slow	20m/min	20m/min	20m/min	20m/min
Maximum angle	55°	55°	55°	55°
Drum motor	1.0kw	1.0kw	1.0kw	1.0kw
Storage dimensions	0.73m x 3.1m x 0.27 m	0.73m x 4.1m x 0.27 m	0.73m x 5.1m x 0.27 m	0.73m x 5.9m x 0.27 m
Noise emissions (dBA)	<60dB	<60dB	<60dB	<60dB