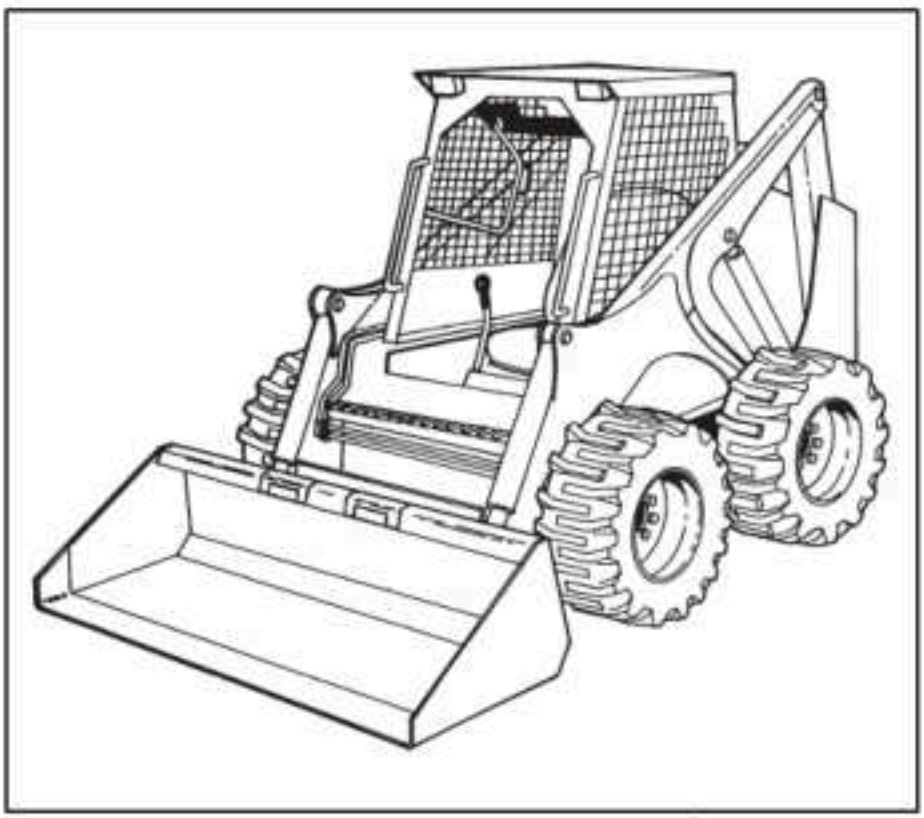
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3

# Service Manual

(S/N 514114999 & Below)
(S/N 514212999 & Below)



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

MELROE
INGERSOLL-RAND

6724280(9-96)

Printed in U.S.A.

bobcat

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**CALIFORNIA**
**PROPOSITION 65 WARNING**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.






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## CONNECTING ROD (Cont'd)

### Checking The Connecting Rod (Cont'd)

Check the connecting rod, without bearing halves, on a connecting rod tester.

Specifications:

Parallel Check–Tolerance . . . . . 0.004 inch (0.10 mm)
Over a Distance of . . . . . 3.94 inch (100 mm)
Squareness Check–Tolerance . . . 0.002 inch (0.05 mm)

See Page 7–84 to check the piston specifications.

Install the snap ring into the piston **[A]**.




**NOTE: The snap ring gap must be towards the piston crown [B].**




Install the piston on the connecting rod **[C]**.

The flywheel symbol on the piston must be toward the identification number on the connecting rod **[C]**.




Install the other side snap ring **[D]**.






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### Troubleshooting Guide

The following troubleshooting guide is provided for assistance in locating and correcting BICS system problems. It is recommended that these procedures be done by authorized Bobcat Service Personnel only.

**⚠ WARNING**

**Check for correct function after adjustments, repairs or service. Failure to make correct repairs or adjustments can cause injury or death.**

W–2004–1285

### BICS SYSTEM CONTROLLER

| PROBLEM | SOLUTION # |
|---|---|
| Power indicator light does not come ON. | 1, 2, 3, 6 |
| All indicator lights flashing. | 4 |
| One of the indicator lights flashing. | 5 |
| Intermittent indicator lights. | 6, 7, 8, 9 |

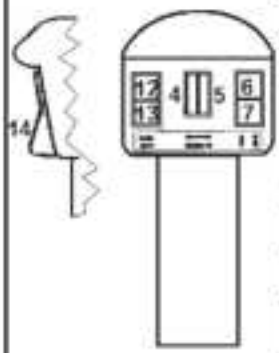
| SOLUTION SUGGESTIONS |
|---|
| 1. Check that ignition switch is ON. |
| 2. Check BICS 10 amp. fuse. |
| 3. Check wiring and connections. Make sure the connector is securely connected to the controller. Remove controller and pull on connector to check. |
| 4. Look at indicator light windows, if they are milky white in appearance, it is most likely caused by moisture in the controller. Allow to dry or replace the controller. |
| 5. Refer to BICS controller troubleshooting chart. (See Page 8–4.) |
| 6. Check wire connections to make sure connectors are locked into place. |
| 7. Check pins in connectors for pins pushed back or bent. |
| 8. Move the system wiring back & forth to try to find area that may be causing the intermittent connection. |
| 9. Use sensor tester (MEL1428) to isolate problem between sensor and controller and wiring. |



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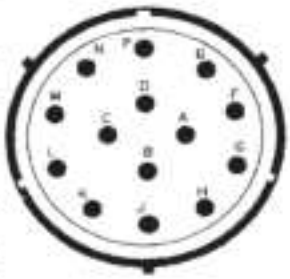
## ELECTRICAL/HYDRAULIC CONTROLS REFERENCE
### Controls Identification Chart

Left Side Control Handle Switches



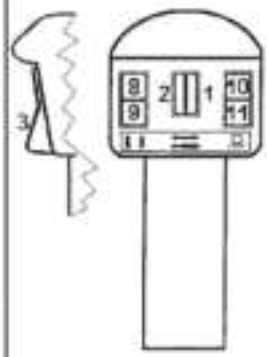

| Switch Number | Solenoid Number Activated | | Attachment Harness Terminal Activated |
|---|---|---|---|
| | | RH | |
| 1 | 1 | 1 | K |
| 2 | 2 | 2 | K |
| * 3 | 1 | 1 | K |
| 4 | 2 | 2 & 3 | K, A, D |
| 5 | 1 | 1 & 3 | K, A, C |
| 6 | 1 | 1 & 3 | K, E |
| 7 | 1 | 1 & 3 | K, F |
| 8 | 1 | 1 & 3 | K, G |
| 9 | 1 | 1 & 3 | K, H |
| 10, 11, 12, 13, 14 | – | — | K |

Attachment Harness Connector



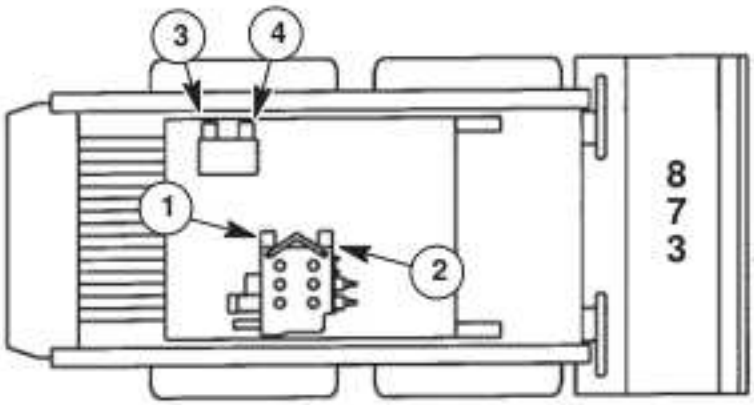
Viewed from front (pin side of connector) of loader.

Right Side Control Handle Switches




RH – Loaders with Rear Hydraulics Option.

* If harness terminals K & L are jumped together, switches 4 thru 9 will function the same as switch 3.




| Solenoid Number | Hydraulic Coupler | Wiring Color |
|---|---|---|
| 1 | Front Female | Dk. Green/ Red |
| 2 | Front Male | Dk. Green/ Lt. Green |
| 3 (Rear) | Diverter | Yellow |
| 4 (Front) | Bleed – Rear Male & Female | Dk. Green/ Yellow |

MC–02315

NOTE: The Key Switch fully left position activates solenoids number 1 & 4.

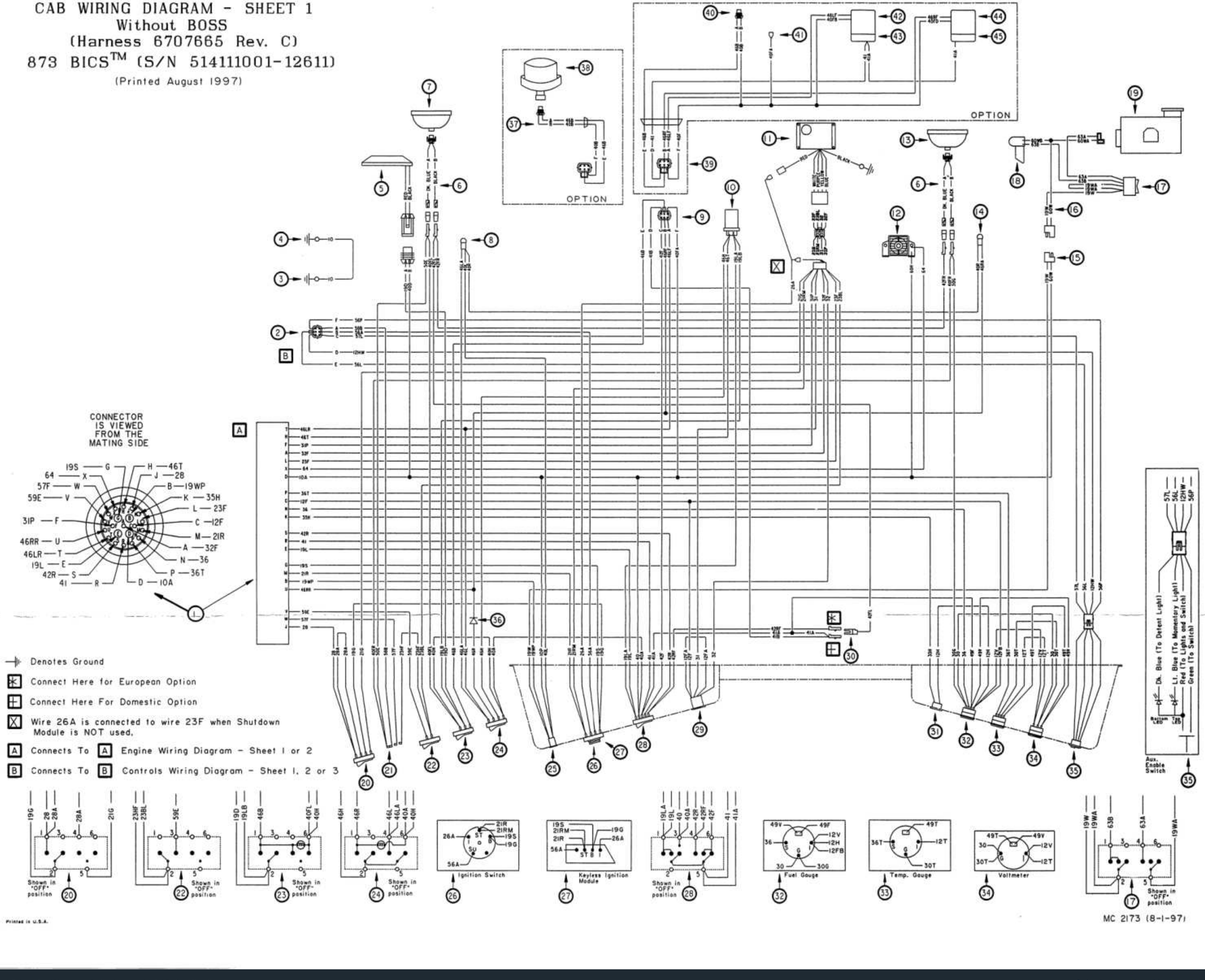


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# CAB WIRING DIAGRAM - SHEET 1
Without BOSS
(Harness 6707665 Rev. C)
873 BICS™ (S/N 514111001-12611)

(Printed August 1997)






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