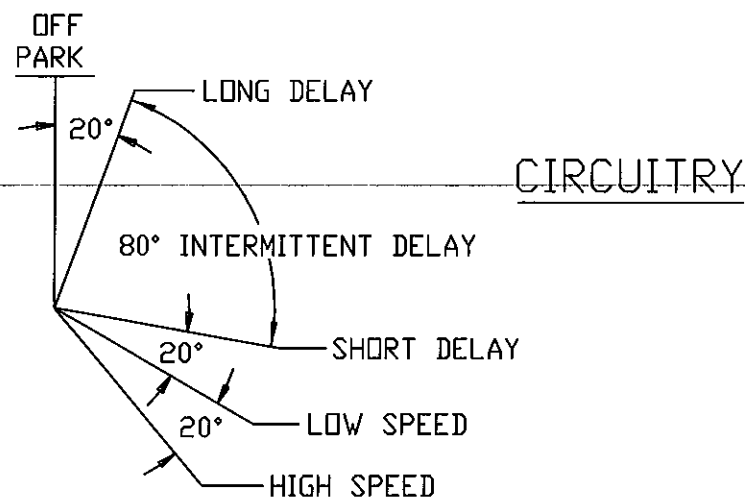
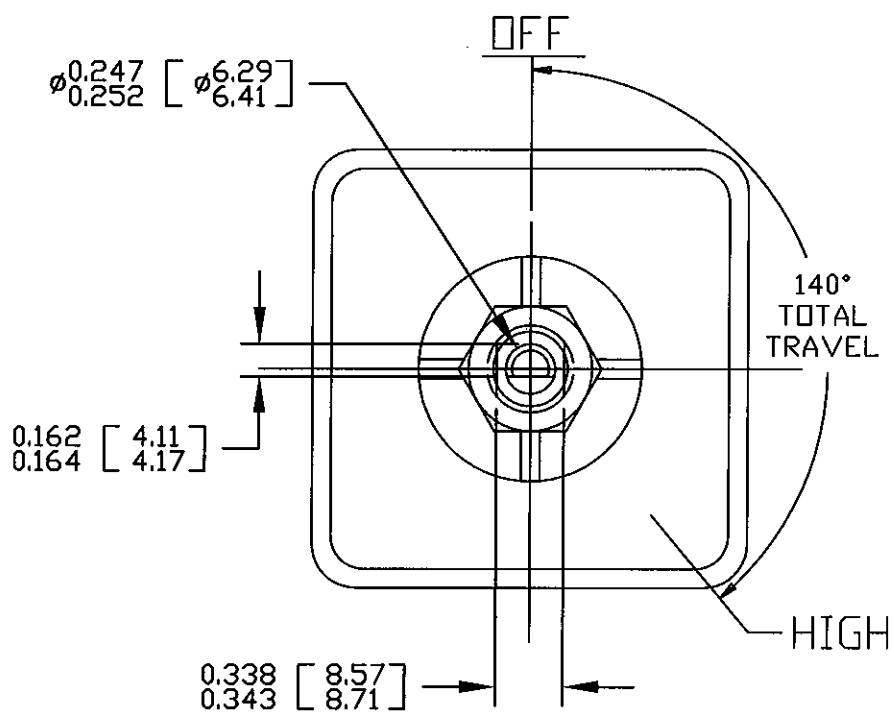


**Revision Control Record**

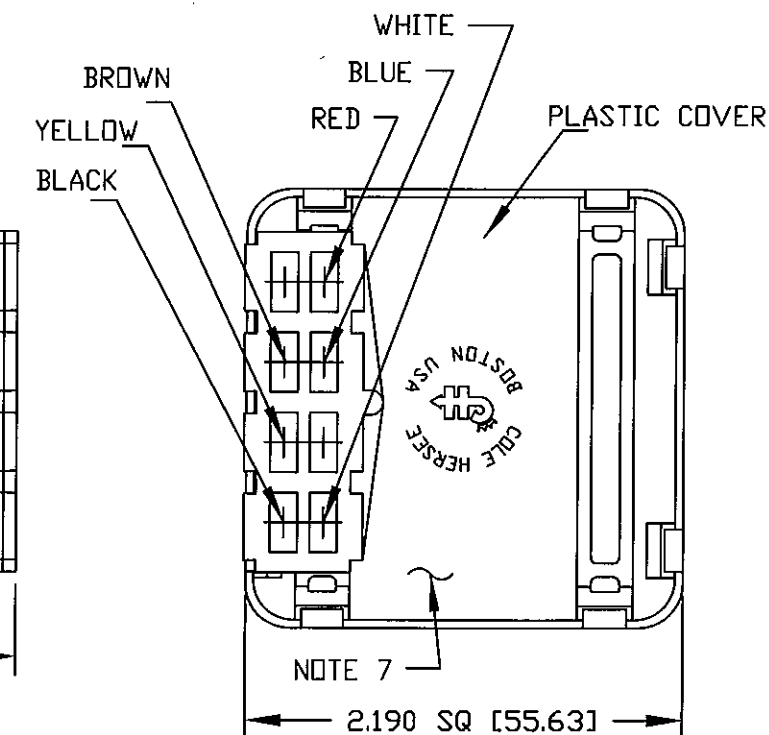
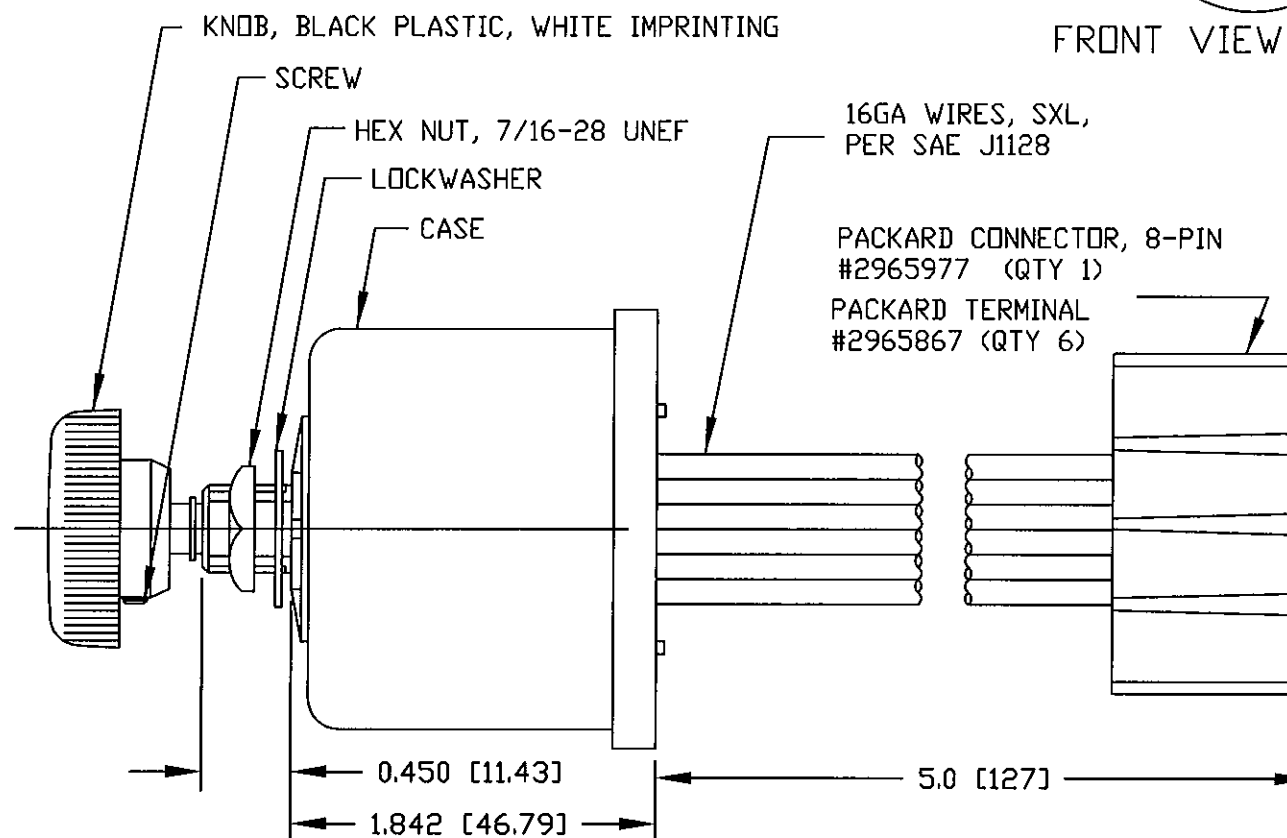
Rev.	Description of Change	ECN No.	Date
E	REVISED DRAWING, SSR	07035	1/25/07
F	BOM CHANGE	09588	01/15/10



**CIRCUITRY**



**FRONT VIEW OF KNOB**



**NOTES:**

- DESIGNED FOR 12V SYSTEM, SINGLE MOTOR, DYNAMIC AND NON-DYNAMIC PARK. TO BE USED WITH PERMANENT MAGNET MOTOR, NEGATIVE GROUND ONLY.
- PUSH TO WASH FUNCTION: RESULTS IN 2 TO 3 WIPES AFTER RELEASE OF PUSH SWITCH.
- RATING: VOLTAGE OPERATING RANGE 9VDC TO 16VDC  
 ROTARY SWITCH ACTUATION 20,000 CYCLES MINIMUM.  
 MOTOR DRIVE: 15 AMPS CONTINUOUS. START-UP/STALL/LOCKED-ROTOR 50 AMPS. SHORT-CIRCUIT PROOF.  
 WASHER CIRCUIT 3 AMPS, PUSH SWITCH 20,000 CYCLES MINIMUM.
- MICROPROCESSOR CONTROLLED, SOLID-STATE RELAY, CURRENT LIMIT SENSE CIRCUIT, REVERSE POLARITY PROTECTED
- CONFORMS TO SAE J1455:  
 4.11 GENERAL HEAVY DUTY TRUCK ELECTRICAL ENVIRONMENT.  
 4.11.1 STEADY-STATE ELECTRICAL CHARACTERISTICS.  
 4.11.2 TRANSIENT, NOISE AND ELECTROSTATIC CHARACTERISTICS.
- ENVIRONMENTAL EXTREMES BY LOCATION.  
 5.2 INTERIOR-FORWARD.
- ALL DIMENSIONS ARE REFERENCE ONLY UNLESS NOTED OTHERWISE.
- COLE HERSEE PART NUMBER, REVISION, & DATE CODE STAMPED IN WHITE.

COLOR	FUNCTION
WHITE	MOTOR HIGH SPEED
YELLOW	MOTOR LOW SPEED
BLACK	GROUND (0V)
BROWN	WASHER PUMP
RED	VBB (12V)
BLUE	MOTOR PARK

**Tolerances** Unless otherwise specifically noted, the following are default tolerances:  
 \* 2-place Decimal Dimensions +/- .02"  
 \* 3-place Decimal Dimensions +/- .005"  
 \* Angular Dimensions +/- 1.0 Deg.  
 \* Metric: Refer to equivalent English Dimension Tolerance  
 >>> NOTE: All tolerances are Non-Cumulative. <<<

**Dimensional Units** All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters

**"REF." or an Asterisk (\*)** = Non-Toleranced Reference Dimension, shown for clarification purposes only.

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**DO NOT SCALE** - Dimensional variation may occur during printing / reproduction.

**Special Characteristics:**

- CC Critical Characteristic, relating to Safety and/or Regulatory Compliance
- X Significant Characteristic relating to Process Control (SPC)
- KC Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer

(Note that the identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.)

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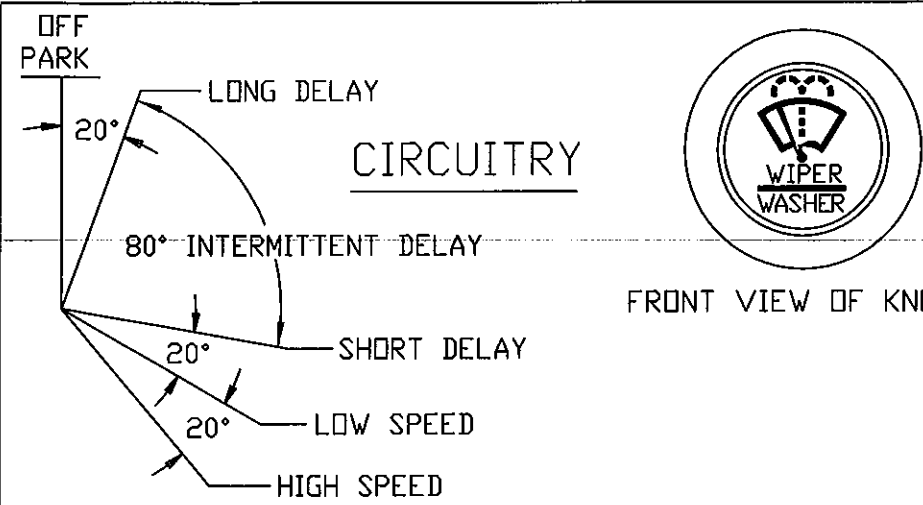
**Description:** WINDSHIELD WIPER CONTROLLER, UNIVERSAL, 12V

**Drawing / Part No.:** 75600

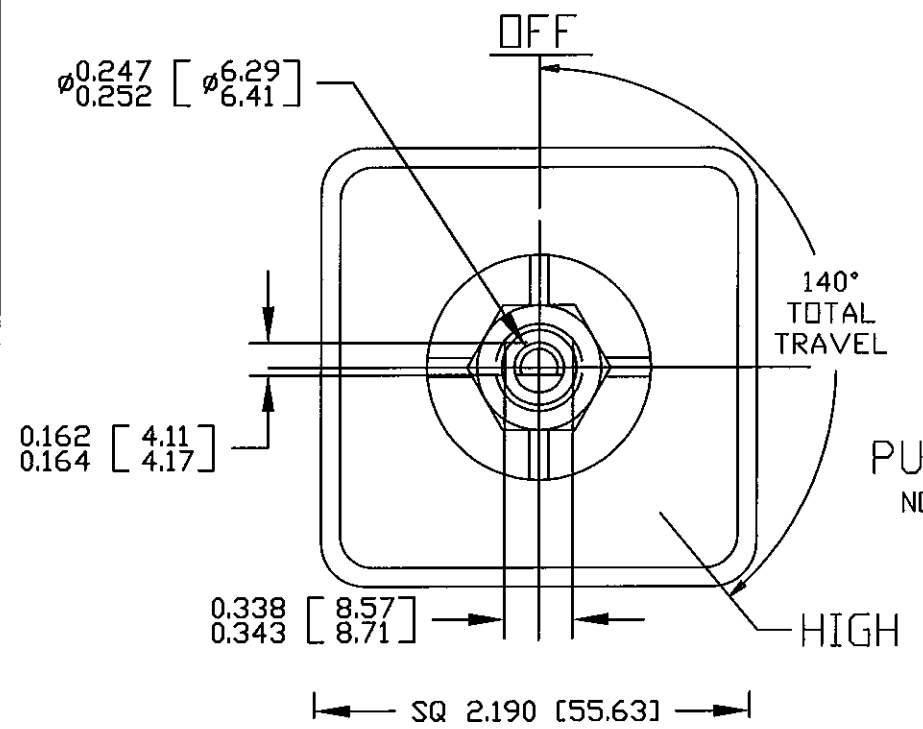
**Current Rev.:** F

**Revision Control Record**

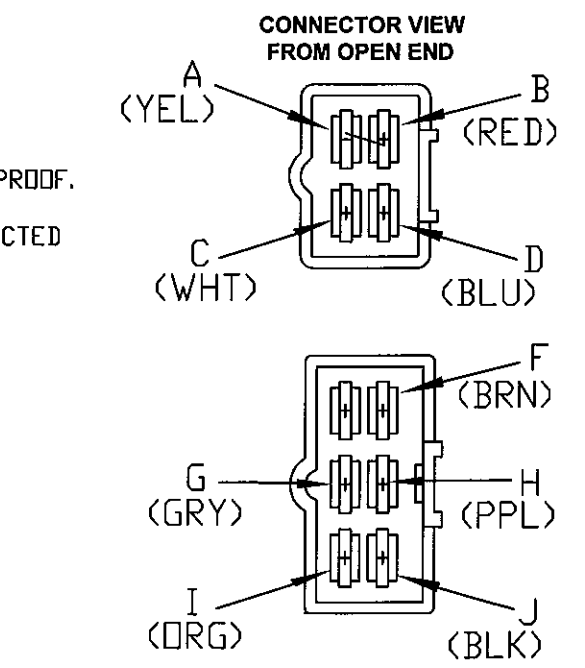
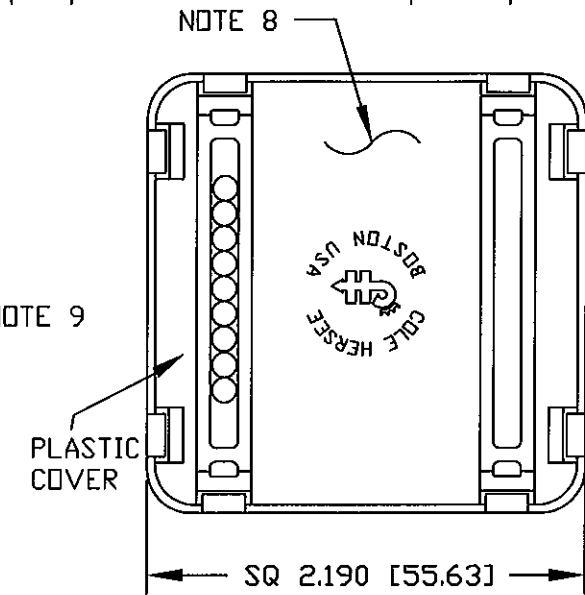
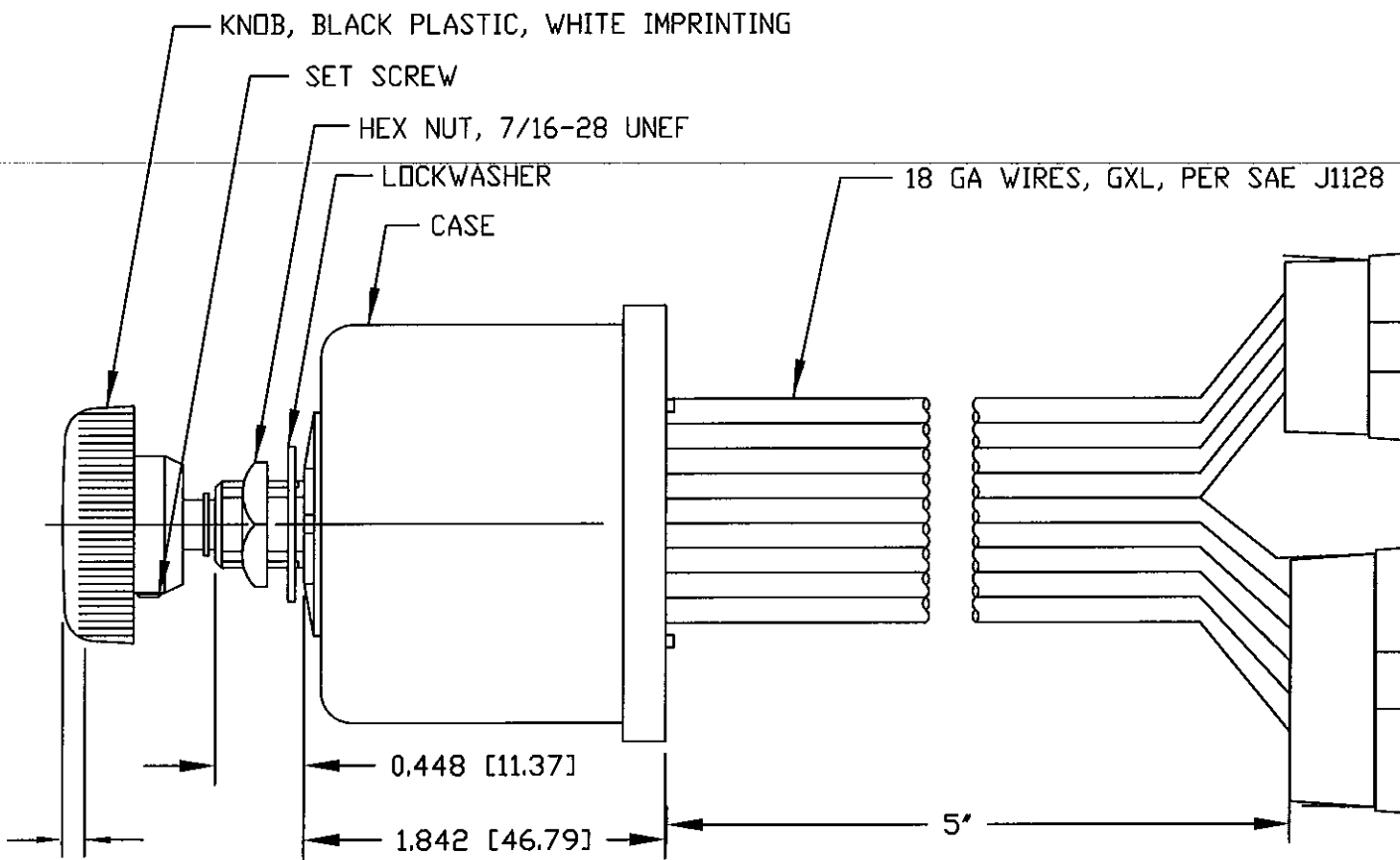
Rev.	Description of Change	ECN No.	Date
E	ADDED NOTE TO COVER VIEW	03274	7/24/03
F	CHANGE TO SSR PCB	07060	02/16/07
G	BOM CHANGE	09587	01/13/10



FRONT VIEW OF KNOB



PUSH TO WASH  
NOTE 2



**NOTES:**

- DESIGNED FOR 12V SYSTEM, DUAL MOTOR, DYNAMIC AND NON-DYNAMIC PARK.
- PUSH TO WASH FUNCTION RESULTS IN 3 WIPES AFTER RELEASE OF PUSH SWITCH.
- RATING: VOLTAGE OPERATING RANGE 9VDC TO 16VDC  
 ROTARY SWITCH ACTUATION 20,000 CYCLES MINIMUM.  
 MOTOR DRIVE: 10 AMPS PER MOTOR CONTINUOUS. START-UP/STALL/LOCKED-ROTOR 30 AMPS. SHORT-CIRCUIT PROOF.  
 WASHER CIRCUIT 3 AMPS, PUSH SWITCH 20,000 CYCLES MINIMUM.
- MICROPROCESSOR CONTROLLED, SOLID-STATE RELAY, CURRENT LIMIT SENSE CIRCUIT, REVERSE POLARITY PROTECTED
- CONFORMS TO SAE J1455:  
 4.11 GENERAL HEAVY DUTY TRUCK ELECTRICAL ENVIRONMENT.  
 4.11.1 STEADY-STATE ELECTRICAL CHARACTERISTICS.  
 4.11.2 TRANSIENT, NOISE AND ELECTROSTATIC CHARACTERISTICS.
- INTERMITTENT DELAYS: 1, 2, 4, 7, 11 AND 16 SECONDS
- ALL DIMENSIONS ARE REFERENCE ONLY UNLESS NOTED OTHERWISE.
- COLE HERSEE PART NUMBER, REVISION, & DATE CODE STAMPED IN WHITE ON REAR PLASTIC COVER.
- CONNECTORS, DELPHI: 6-PIN, PART# 2977042 (QTY 1); 4-PIN, PART# 6294544 (QTY 1)  
 TERMINALS, DELPHI: PART#2965439 (QTY 10)

COLOR	FUNCTION	TERMINAL
YELLOW	LOW-SPEED MOTOR #1	A
RED	VBB (12V POWER)	B
WHITE	HIGH-SPEED MOTOR#1	C
BLUE	PARK MOTOR #1	D
BROWN	WASHER	F
GREY	HIGH-SPEED MOTOR #2	G
PURPLE	PARK MOTOR #2	H
ORANGE	LOW-SPEED MOTOR #2	I
BLACK	GROUND (0V)	J

**Tolerances** Unless otherwise specifically noted, the following are default tolerances:  
 \* 2-place Decimal Dimensions +/- .02"  
 \* 3-place Decimal Dimensions +/- .005"  
 \* Angular Dimensions +/- 1.0 Deg.  
 \* Metric: Refer to equivalent English Dimension Tolerance  
 >>> NOTE: All tolerances are Non-Cumulative. <<<

**Dimensional Units** All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters

**"REF." or an Asterisk (\*)** = Non-Toleranced Reference Dimension, shown for clarification purposes only.

Used On or Ref.: **EX28333** Scale: **1:1**

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**DO NOT SCALE** - Dimensional variation may occur during printing / reproduction.

Drawn **JCS** Date **10/10/06**  
 By: Drawn:

**Special Characteristics:**

- Critical Characteristic, relating to Safety and/or Regulatory Compliance
- Significant Characteristic relating to Process Control (SPC)
- Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer

(Note that the identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.)

Responsible Engineer: **JCS** Pg. **1**

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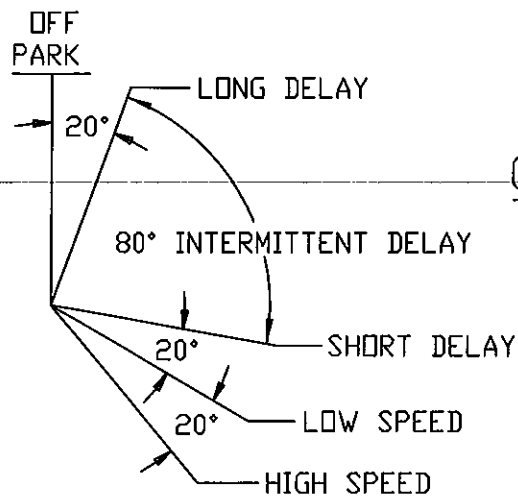
**Description:**  
**WINDSHIELD WIPER CONTROLLER, DUAL-MOTOR, W/ WIPER ENABLE, 12V, SSR**

Drawing / Part No.: **75600-01** Current Rev. **G**

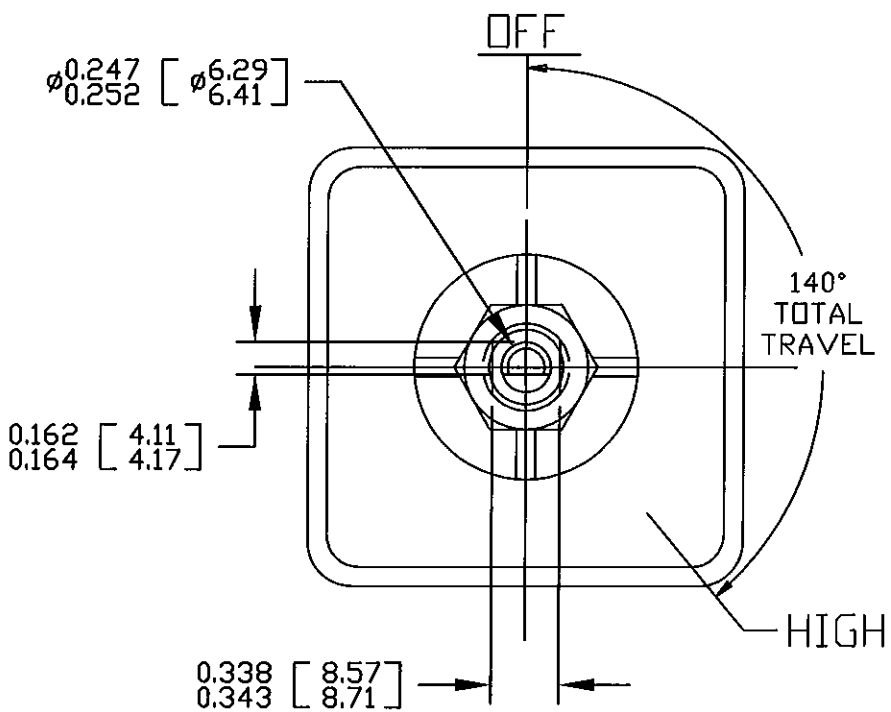


**Revision Control Record**

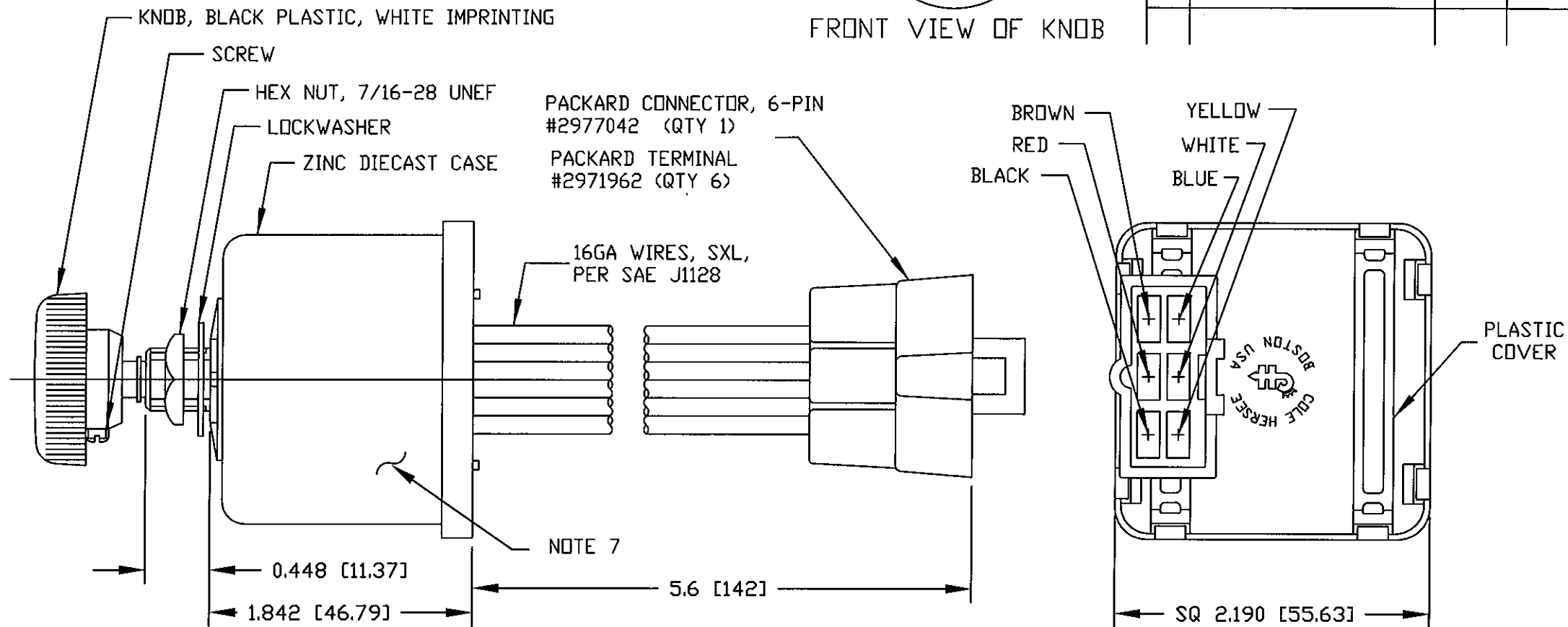
Rev.	Description of Change	ECN No.	Date
L	REVISED DRAWING, SSR	07035	1/24/07
M	EDIT NOTE 7	09257	04/21/09
N	BOM CHANGE	09588	01/15/10



**CIRCUITRY**



**FRONT VIEW OF KNOB**



**NOTES:**

- DESIGNED FOR 12V SYSTEM, SINGLE MOTOR, DYNAMIC AND NON-DYNAMIC PARK. TO BE USED WITH PERMANENT MAGNET MOTOR, NEGATIVE GROUND ONLY.
- PUSH TO WASH FUNCTION: RESULTS IN 2 TO 3 WIPES AFTER RELEASE OF PUSH SWITCH.
- RATING: VOLTAGE OPERATING RANGE 9VDC TO 16VDC  
 ROTARY SWITCH ACTUATION 20,000 CYCLES MINIMUM.  
 MOTOR DRIVE: 15 AMPS CONTINUOUS. START-UP/STALL/LOCKED-ROTOR 50 AMPS. SHORT-CIRCUIT PROOF.  
 WASHER CIRCUIT 3 AMPS, PUSH SWITCH 20,000 CYCLES MINIMUM.
- MICROPROCESSOR CONTROLLED, SOLID-STATE RELAY, CURRENT LIMIT SENSE CIRCUIT, REVERSE POLARITY PROTECTED
- CONFORMS TO SAE J1455:
  - GENERAL HEAVY DUTY TRUCK ELECTRICAL ENVIRONMENT.
    - STEADY-STATE ELECTRICAL CHARACTERISTICS.
    - TRANSIENT, NOISE AND ELECTROSTATIC CHARACTERISTICS.
  - ENVIRONMENTAL EXTREMES BY LOCATION.
    - INTERIOR-FORWARD.
- ALL DIMENSIONS ARE REFERENCE ONLY UNLESS NOTED OTHERWISE.
- COLE HERSEE PART NUMBER, REVISION, & DATE CODE MARKED AT RANDOM ON CASE.

COLOR	FUNCTION
WHITE	MOTOR HIGH SPEED
YELLOW	MOTOR LOW SPEED
RED	VBB (+12V)
BROWN	WASHER PUMP
BLACK	GROUND (0V)
BLUE	MOTOR PARK

**Tolerances** Unless otherwise specifically noted, the following are default tolerances:  
 \* 2-place Decimal Dimensions +/- .02"  
 \* 3-place Decimal Dimensions +/- .005"  
 \* Angular Dimensions +/- 1.0 Deg.  
 \* Metric: Refer to equivalent English Dimension Tolerance  
 >>> NOTE: All tolerances are Non-Cumulative. <<<

**Dimensional Units** All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters

"REF." or an Asterisk (\*) = Non-Toleranced Reference Dimension, shown for clarification purposes only.

Used On or Ref.: **EX26541** Scale: **1:1**

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Drawn By: **DPS** Date Drawn: **1/23/07**

**Special Characteristics:**

- Critical Characteristic, relating to Safety and/or Regulatory Compliance
- Significant Characteristic relating to Process Control (SPC)
- Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer

(Note that the Identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.)

Responsible Engineer: **JCS** Pg. **1**

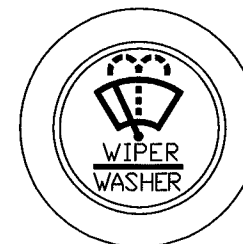
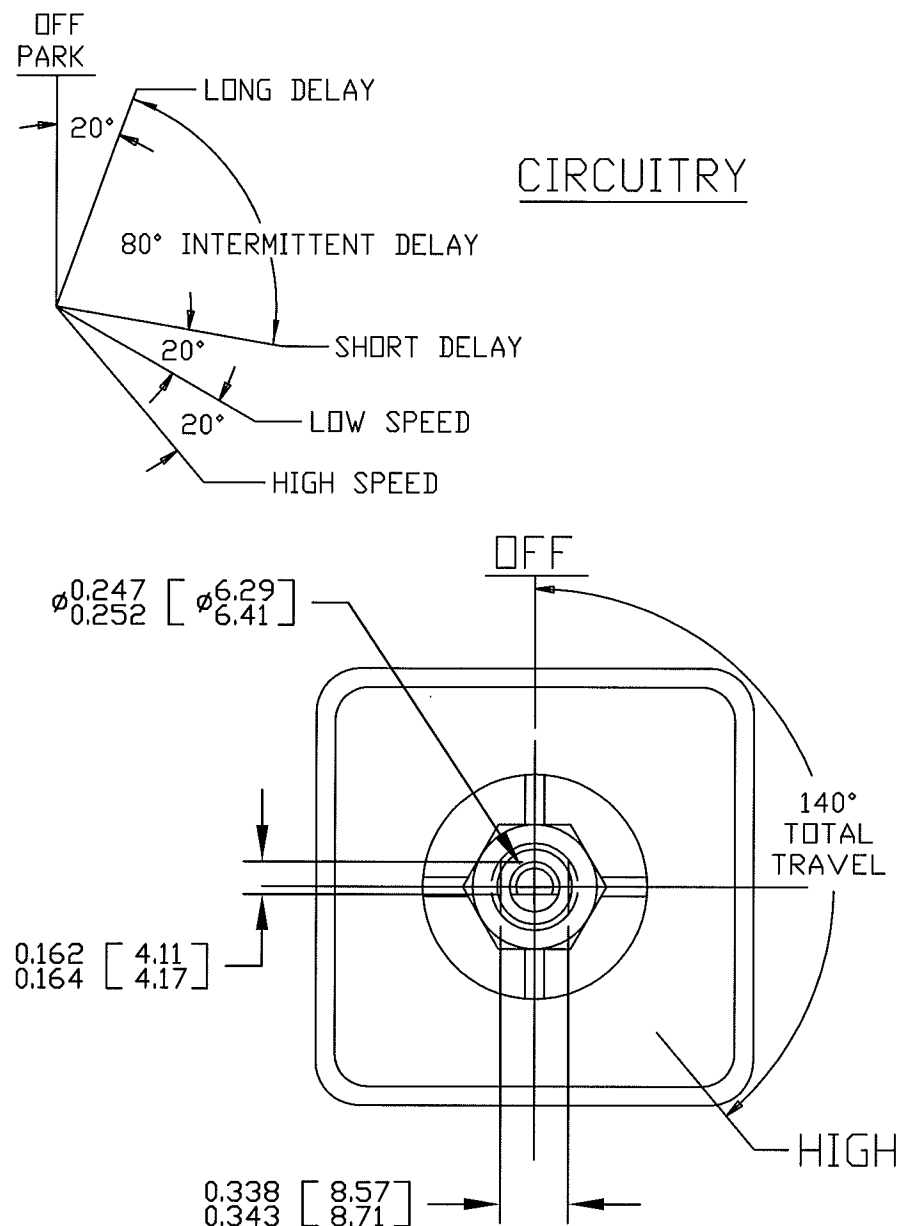
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 Phn: 617-268-2100 Web: www.colehersee.com

**Description:** WINDSHIELD WIPER CONTROLLER, UNIVERSAL, 12V

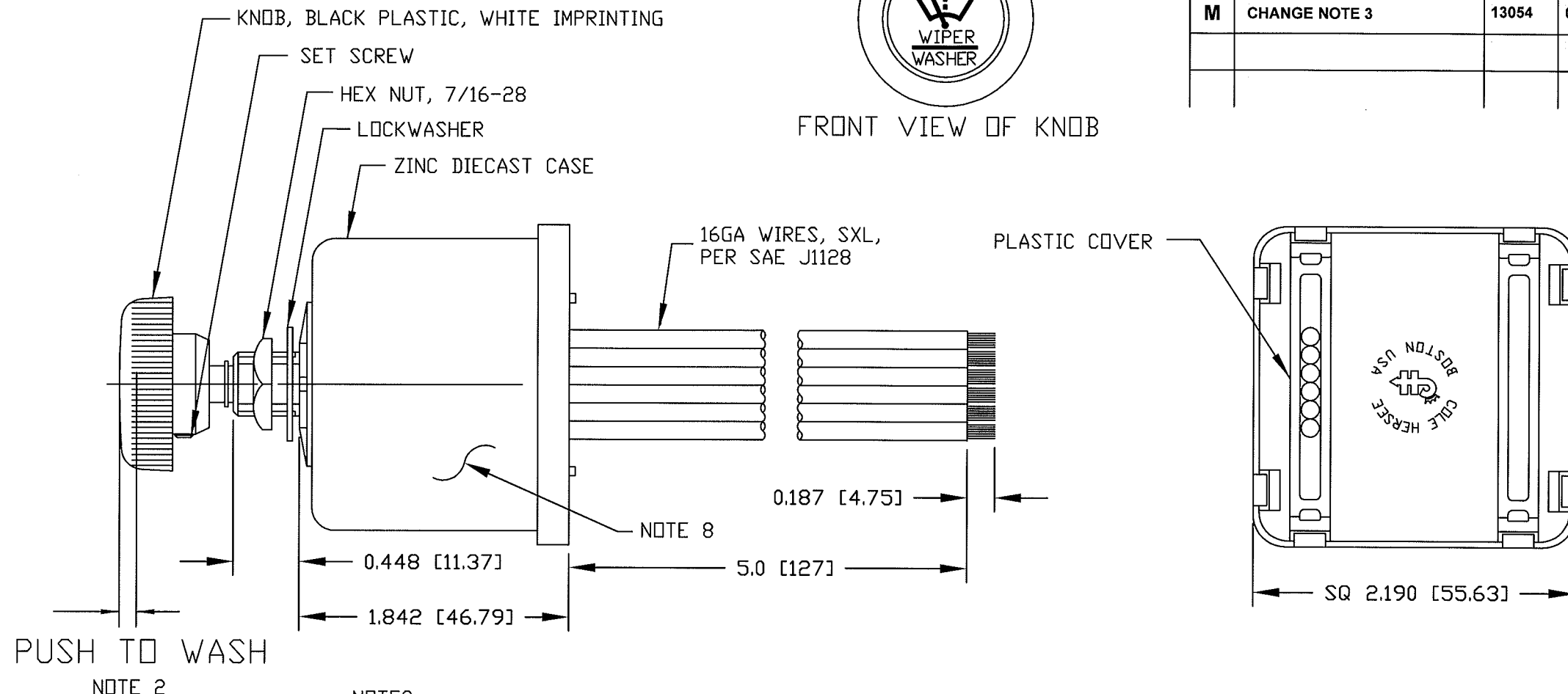
**Drawing / Part No.:** **75600-02** **Current Rev.:** **N**

**Revision Control Record**

Rev.	Description of Change	ECN No.	Date
L	CHANGE BOM	09588	01/15/10
M	CHANGE NOTE 3	13054	02/07/13



FRONT VIEW OF KNOB



**NOTES:**

- DESIGNED FOR 12V SYSTEM, SINGLE MOTOR, DYNAMIC AND NON-DYNAMIC PARK. TO BE USED WITH PERMANENT MAGNET MOTOR, NEGATIVE GROUND ONLY.
- PUSH TO WASH FUNCTION: RESULTS IN 2 TO 3 WIPES AFTER RELEASE OF PUSH SWITCH.
- RATING: VOLTAGE OPERATING RANGE 9VDC TO 16VDC  
ROTARY SWITCH ACTUATION 20,000 CYCLES MINIMUM.  
MOTOR DRIVE: 15 AMPS CONTINUOUS. START-UP/STALL/LOCKED-ROTOR 50 AMPS. SHORT-CIRCUIT PROTECTED<sup>(M)</sup>  
WASHER CIRCUIT 3 AMPS, PUSH SWITCH 20,000 CYCLES MINIMUM.
- MICROPROCESSOR CONTROLLED, SOLID-STATE RELAY, CURRENT LIMIT SENSE CIRCUIT, REVERSE POLARITY PROTECTED
- CONFORMS TO SAE J1455:  
4.11 GENERAL HEAVY DUTY TRUCK ELECTRICAL ENVIRONMENT.  
4.11.1 STEADY-STATE ELECTRICAL CHARACTERISTICS.  
4.11.2 TRANSIENT, NOISE AND ELECTROSTATIC CHARACTERISTICS.
- ENVIRONMENTAL EXTREMES BY LOCATION.  
5.2 INTERIOR-FORWARD.
- ALL STEEL PARTS PLATED
- ALL DIMENSIONS ARE REFERENCE ONLY UNLESS NOTED OTHERWISE.
- COLE HERSEE PART NUMBER, REVISION, & DATE CODE MARKED AT RANDOM ON CASE.

COLOR	FUNCTION
WHITE	MOTOR HIGH SPEED
YELLOW	MOTOR LOW SPEED
RED	VBB (+12V)
BROWN	WASHER PUMP
BLACK	GROUND (0V)
BLUE	MOTOR PARK

**Tolerances** Unless otherwise specifically noted, the following are default tolerances:  
 \* 2-place Decimal Dimensions +/- .02"  
 \* 3-place Decimal Dimensions +/- .005"  
 \* Angular Dimensions +/- 1.0 Deg.  
 \* Metric: Refer to equivalent English Dimension Tolerance  
 >>> NOTE: All tolerances are Non-Cumulative. <<<

**Dimensional Units** All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters

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Used On or Ref.: **EX28241** Scale: **1:1**

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Drawn By: **JCS** Date Drawn: **1/9/07**

**Special Characteristics:**

**CC** Critical Characteristic, relating to Safety and/or Regulatory Compliance

**X** Significant Characteristic relating to Process Control (SPC)

**KC** Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer

(Note that the identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.)

Responsible Engineer: **JCS** Pg. **1**

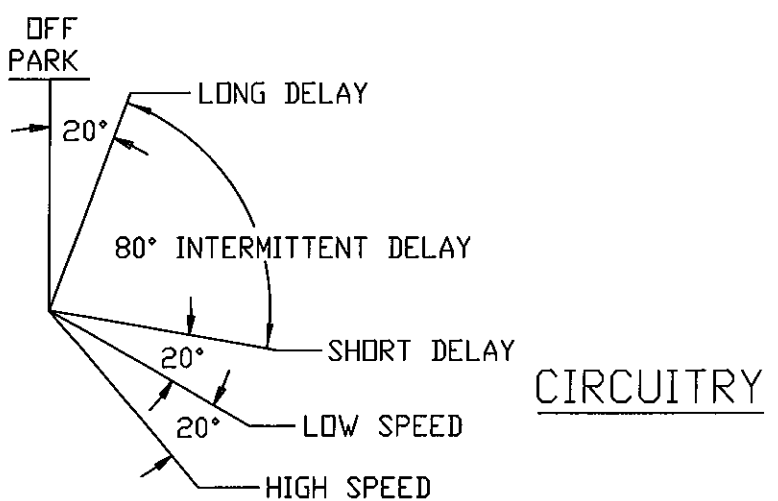
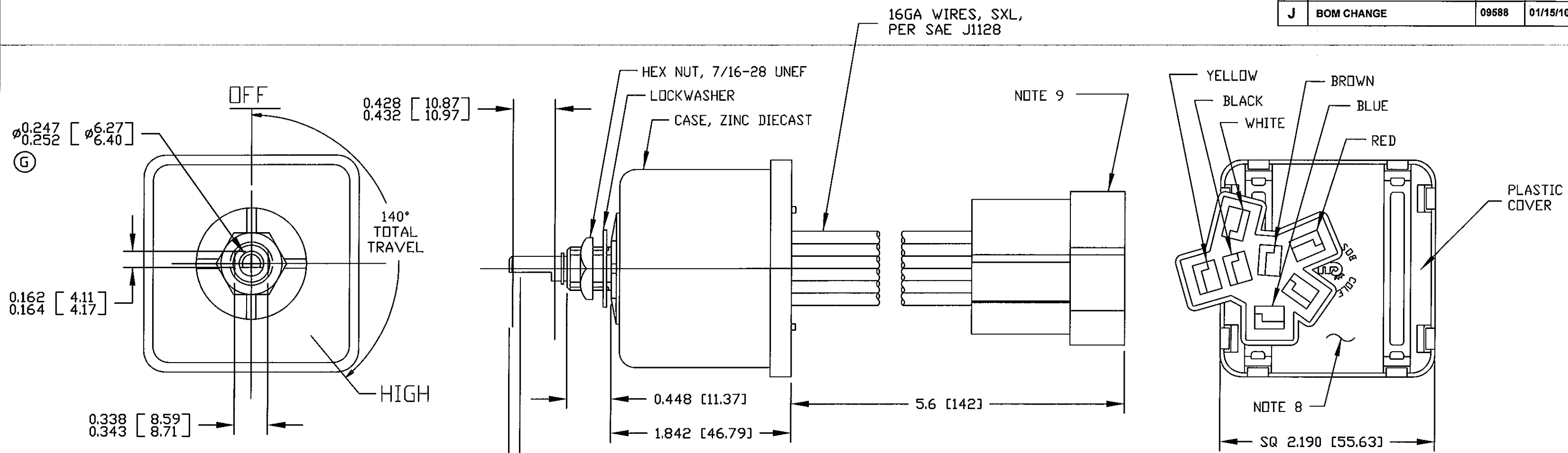
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 Phn: 617-268-2100 Web: www.colehersee.com

**Description:** WINDSHIELD WIPER CONTROLLER, UNIVERSAL, 12V

Drawing / Part No.: **75600-04** Current Rev.: **M**

**Revision Control Record**

Rev.	Description of Change	ECN No.	Date
H	CHANGED TO SSR	07074	03/02/07
J	BOM CHANGE	09588	01/15/10



- NOTES:**
- DESIGNED FOR 12V SYSTEM, SINGLE MOTOR, DYNAMIC AND NON-DYNAMIC PARK. TO BE USED WITH PERMANENT MAGNET MOTOR, NEGATIVE GROUND ONLY.
  - PUSH TO WASH FUNCTION: RESULTS IN 2 TO 3 WIPES AFTER RELEASE OF PUSH SWITCH.
  - RATING: VOLTAGE OPERATING RANGE 9VDC TO 16VDC  
 ROTARY SWITCH ACTUATION 20,000 CYCLES MINIMUM.  
 MOTOR DRIVE: 15 AMPS CONTINUOUS. START-UP/STALL/LOCKED-ROTOR 50 AMPS. SHORT-CIRCUIT PROOF.  
 WASHER CIRCUIT 3 AMPS, PUSH SWITCH 20,000 CYCLES MINIMUM.
  - MICROPROCESSOR CONTROLLED, SOLID-STATE RELAY, CURRENT LIMIT SENSE CIRCUIT, REVERSE POLARITY PROTECTED
  - CONFORMS TO SAE J1455:  
 4.11 GENERAL HEAVY DUTY TRUCK ELECTRICAL ENVIRONMENT.  
 4.11.1 STEADY-STATE ELECTRICAL CHARACTERISTICS.  
 4.11.2 TRANSIENT, NOISE AND ELECTROSTATIC CHARACTERISTICS.
  - ENVIRONMENTAL EXTREMES BY LOCATION.  
 5.2 INTERIOR-FORWARD.
  - ALL STEEL PARTS PLATED.
  - ALL DIMENSIONS ARE REFERENCE ONLY UNLESS NOTED OTHERWISE.
  - COLE HERSEE PART NUMBER, REVISION, & DATE CODE STAMPED IN WHITE.
  - CONNECTOR: DILL #059074. TERMINALS: DELPHI #12020126, QTY 6

COLOR	FUNCTION
WHITE	MOTOR HIGH SPEED
YELLOW	MOTOR LOW SPEED
BLACK	GROUND (0V)
BROWN	WASHER PUMP
RED	VBB (12V)
BLUE	MOTOR PARK

**Tolerances** Unless otherwise specifically noted, the following are default tolerances:  
 \* 2-place Decimal Dimensions +/- .02"  
 \* 3-place Decimal Dimensions +/- .005"  
 \* Angular Dimensions +/- 1.0 Deg.  
 \* Metric: Refer to equivalent English Dimension Tolerance  
 >>> NOTE: All tolerances are Non-Cumulative. <<<

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**"REF." or an Asterisk (\*)** = Non-Toleranced Reference Dimension, shown for clarification purposes only.

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**DO NOT SCALE** - Dimensional variation may occur during printing / reproduction.

**Special Characteristics:**

- CC Critical Characteristic, relating to Safety and/or Regulatory Compliance
- X Significant Characteristic relating to Process Control (SPC)
- KC Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer

(Note that the identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.)

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**Description:** WINDSHIELD WIPER & WASHER SW. INTERMITTENT DELAY, 12V.D.C.

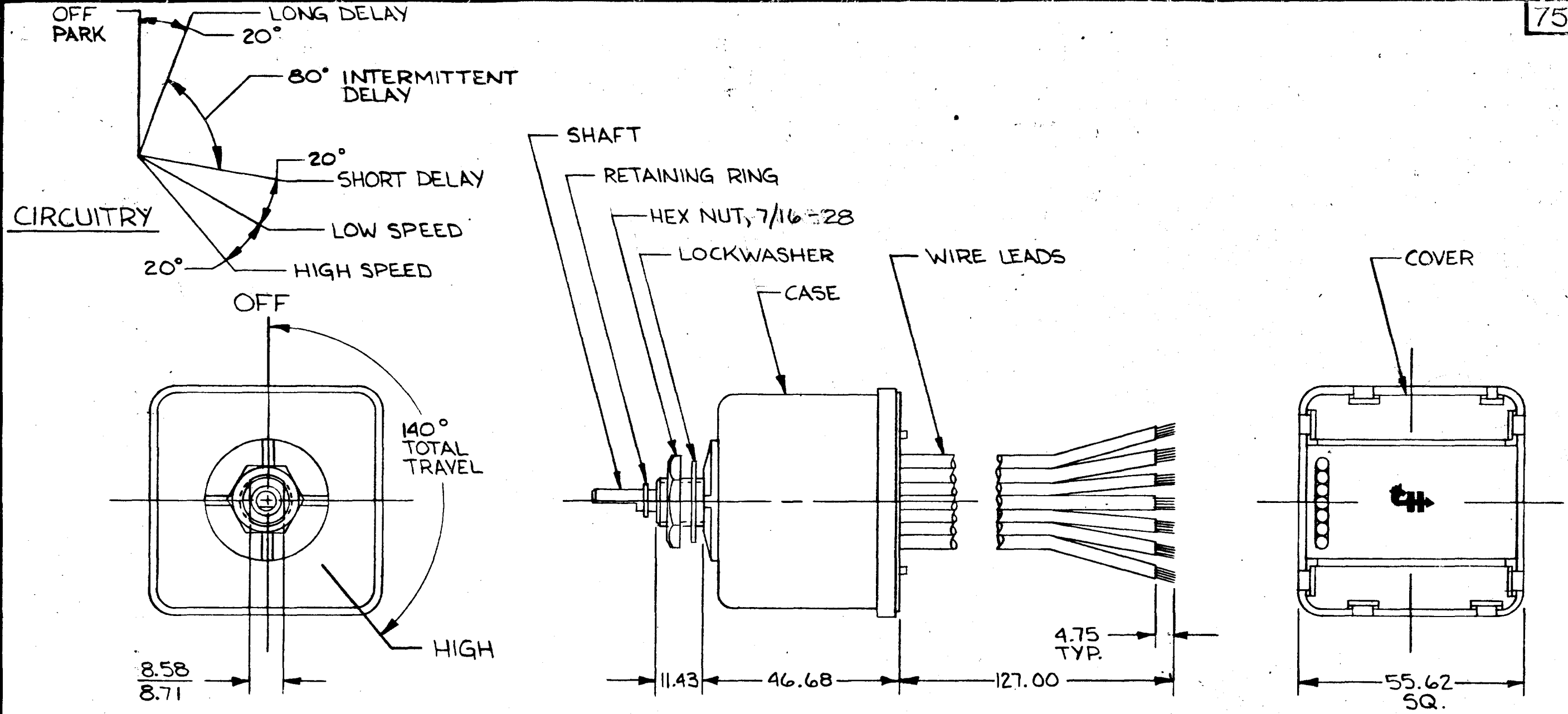
**Drawing / Part No.:** 75600-07

**Current Rev.:** J

MM	IN
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8.58	.338
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45.16	1.781
49.02	1.931
52.88	2.081
56.74	2.231
60.60	2.381
64.46	2.531
68.32	2.681
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76.04	2.981
79.90	3.131
83.76	3.281
87.62	3.431
91.48	3.581
95.34	3.731
99.20	3.881
103.06	4.031
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168.68	6.581
172.54	6.731
176.40	6.881
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184.12	7.181
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203.42	7.931
207.28	8.081
211.14	8.231
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253.60	9.881
257.46	10.031
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265.18	10.331
269.04	10.481
272.90	10.631
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284.48	11.081
288.34	11.231
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299.92	11.681
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307.64	11.981
311.50	12.131
315.36	12.281
319.22	12.431
323.08	12.581
326.94	12.731
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334.66	13.031
338.52	13.181
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396.42	15.431
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404.14	15.731
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427.30	16.631
431.16	16.781
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504.50	19.631
508.36	19.781
512.22	19.931
516.08	20.081
519.94	20.231
523.80	20.381
527.66	20.531
531.52	20.681
535.38	20.831
539.24	20.981
543.10	21.131
546.96	21.281
550.82	21.431
554.68	21.581
558.54	21.731
562.40	21.881
566.26	22.031
570.12	22.181
573.98	22.331
577.84	22.481
581.70	22.631
585.56	22.781
589.42	22.931
593.28	23.081
597.14	23.231
601.00	23.381
604.86	23.531
608.72	23.681
612.58	23.831
616.44	23.981
620.30	24.131
624.16	24.281
628.02	24.431
631.88	24.581
635.74	24.731
639.60	24.881
643.46	25.031
647.32	25.181
651.18	25.331
655.04	25.481
658.90	25.631
662.76	25.781
666.62	25.931
670.48	26.081
674.34	26.231
678.20	26.381
682.06	26.531
685.92	26.681
689.78	26.831
693.64	26.981
697.50	27.131
701.36	27.281
705.22	27.431
709.08	27.581
712.94	27.731
716.80	27.881
720.66	28.031
724.52	28.181
728.38	28.331
732.24	28.481
736.10	28.631
739.96	28.781
743.82	28.931
747.68	29.081
751.54	29.231
755.40	29.381
759.26	29.531
763.12	29.681
766.98	29.831
770.84	29.981
774.70	30.131
778.56	30.281
782.42	30.431
786.28	30.581
790.14	30.731
794.00	30.881
797.86	31.031
801.72	31.181
805.58	31.331
809.44	31.481
813.30	31.631
817.16	31.781
821.02	31.931
824.88	32.081
828.74	32.231
832.60	32.381
836.46	32.531
840.32	32.681
844.18	32.831
848.04	32.981
851.90	33.131
855.76	33.281
859.62	33.431
863.48	33.581
867.34	33.731
871.20	33.881
875.06	34.031
878.92	34.181
882.78	34.331
886.64	34.481
890.50	34.631
894.36	34.781
898.22	34.931
902.08	35.081
905.94	35.231
909.80	35.381
913.66	35.531
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921.38	35.831
925.24	35.981
929.10	36.131
932.96	36.281
936.82	36.431
940.68	36.581
944.54	36.731
948.40	36.881
952.26	37.031
956.12	37.181
959.98	37.331
963.84	37.481
967.70	37.631
971.56	37.781
975.42	37.931
979.28	38.081
983.14	38.231
987.00	38.381
990.86	38.531
994.72	38.681
998.58	38.831

COLE-HERSEE CO.

75601-06



SWITCH CONNECTIONS

COLOR	WIRE SIZE	CONNECT WIRE TO:
YELLOW	2.0 mm <sup>2</sup> (14 GA)	MOTOR LOW SPEED TERMINAL
WHITE	2.0 mm <sup>2</sup> (14 GA)	MOTOR HIGH SPEED TERMINAL
GREEN	2.0 mm <sup>2</sup> (14 GA)	MOTOR PARK TERMINAL
BLACK	0.8 mm <sup>2</sup> (18 GA)	GROUND (B-) THIS CONNECTION MUST BE MADE
BROWN	0.8 mm <sup>2</sup> (18 GA)	WASHER PUMP (B+ TERMINAL)
RED	2.0 mm <sup>2</sup> (14 GA)	B+ (THESE TWO WIRES MUST BE CONNECTED TOGETHER)
RED	0.8 mm <sup>2</sup> (18 GA)	

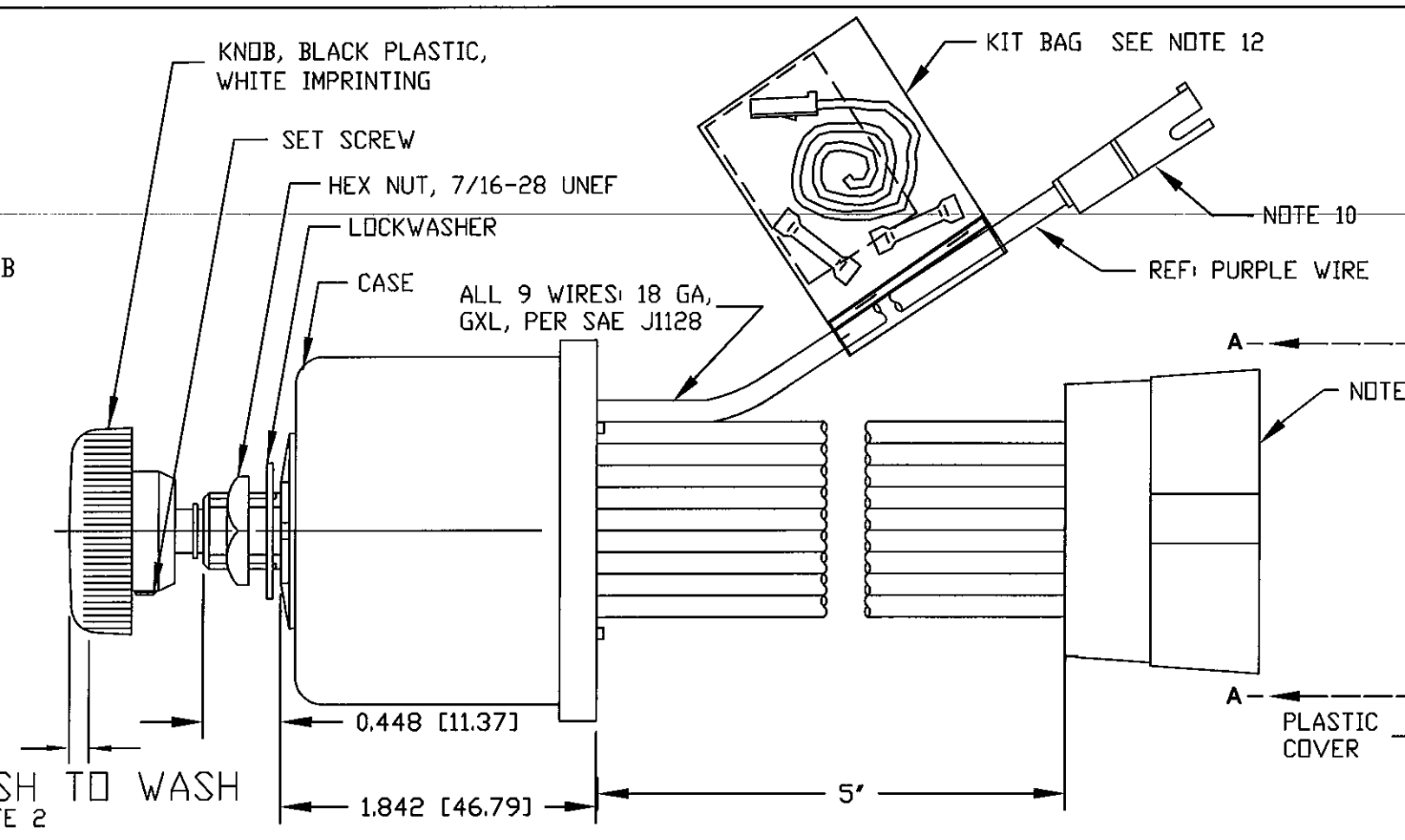
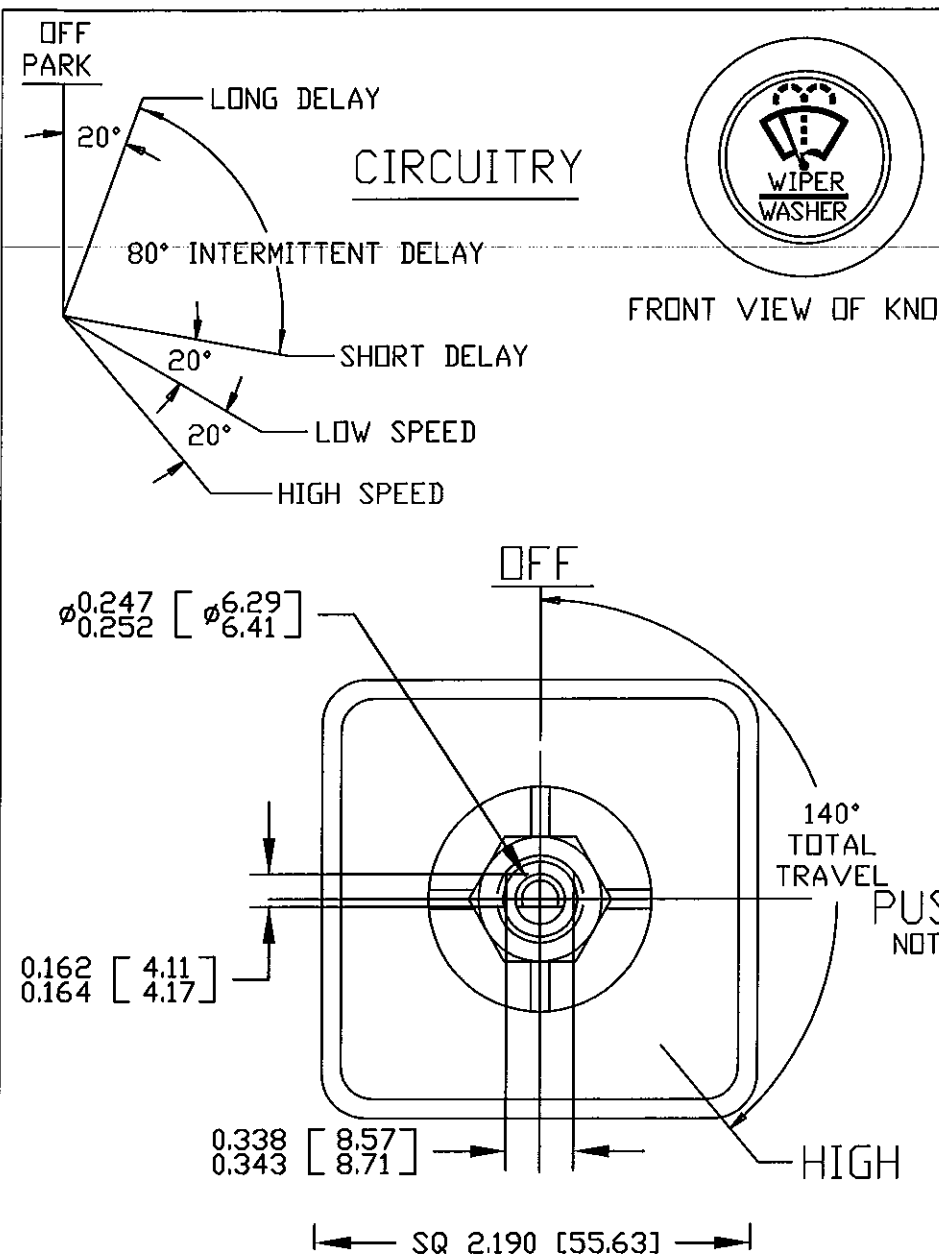
NOTES:

1. PUSH TO WASH, WASHER & WIPER CIRCUIT ACTIVATED (1-3 WIPES AFTER WASHER CIRCUIT IS DEACTIVATED).
2. ALL STEEL PARTS PLATED.
3. ALL DIMENSIONS ARE REF. ONLY.
4. 12 VOLTS D.C.
5. SEPARATE B+ AND GROUND CONNECTIONS MUST BE MADE TO THE WIPER MOTOR.

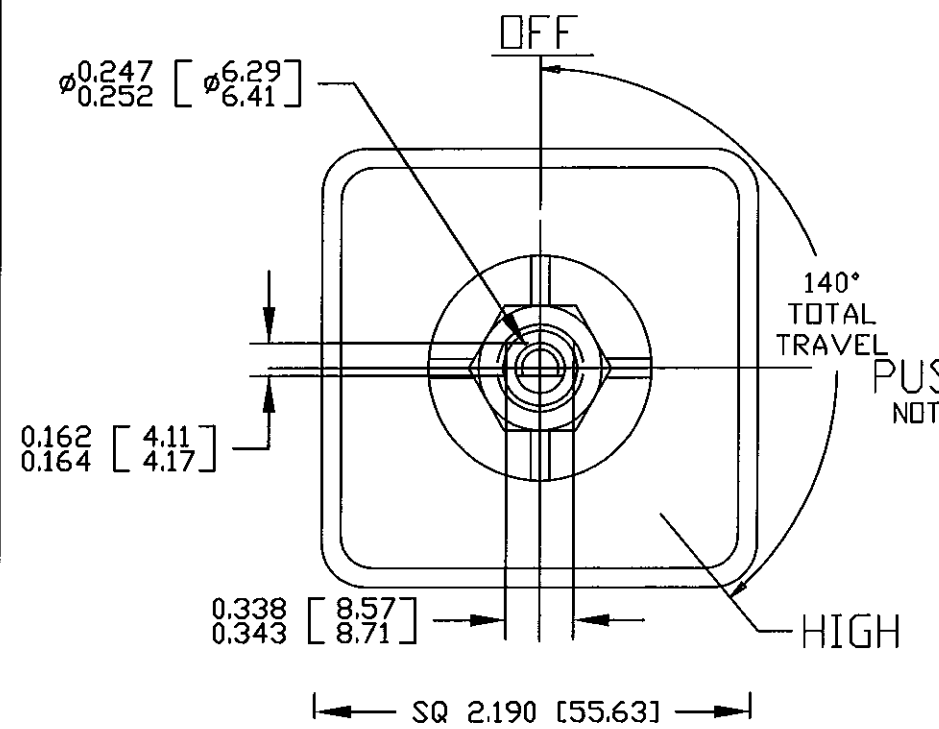
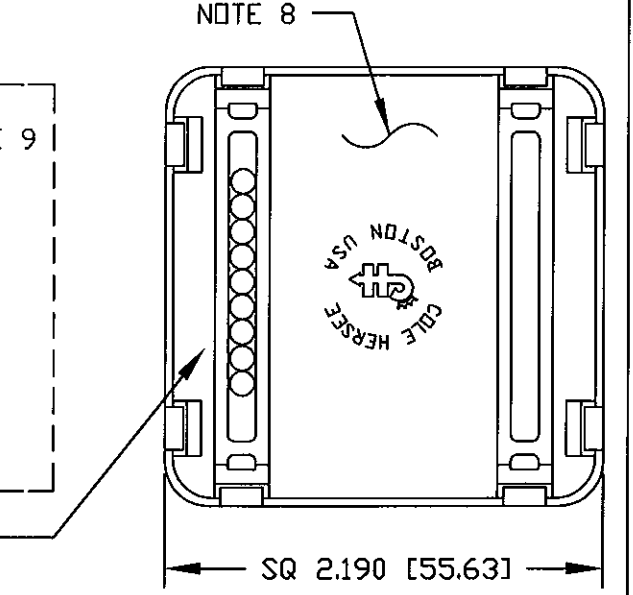
METRIC

LET.	WAS	DATE	BY	LET.	WAS	DATE	BY	MATERIAL	DRAWN	CHECKED	APPRVD.	SCALE	DATE DRAWN
								#	LIZ			1:1	3-18-87
								FINISH					DATE BLUEPRINT
								TOLERANCES	 WINDSHIELDWIPER & WASHER SWITCH				75601-06
								DECIMAL ±					
								METRIC ±					

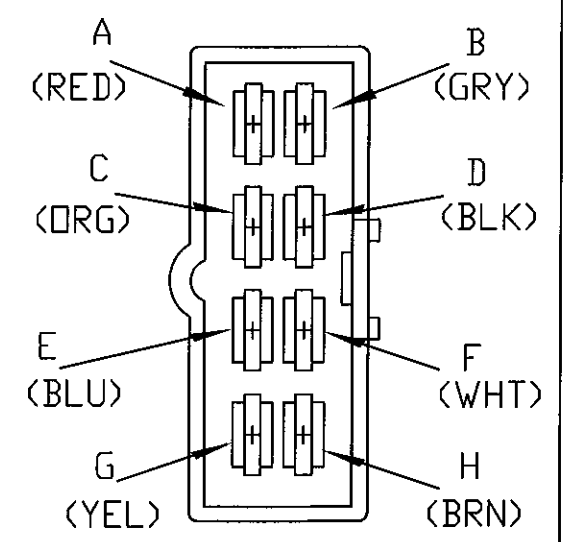
DO NOT SCALE



Revision Control Record			
Rev.	Description of Change	ECN No.	Date
A	NEW RELEASE	07475	12/04/07
B	SOFTWARE CHANGE	08085	01/31/08
C	BOM CHANGE	09587	01/13/10



- NOTES:
- DESIGNED FOR 12V SYSTEM, DUAL MOTOR. MUST BE USED WITH NON-DYNAMIC PARK MOTORS ONLY.
  - PUSH TO WASH FUNCTION RESULTS IN 3 WIPES AFTER RELEASE OF PUSH SWITCH.
  - RATING: VOLTAGE OPERATING RANGE 9VDC TO 16VDC  
 ROTARY SWITCH ACTUATION 20,000 CYCLES MINIMUM.  
 MOTOR DRIVE: 10 AMPS PER MOTOR CONTINUOUS, START-UP/STALL/LOCKED-ROTOR 30 AMPS. SHORT-CIRCUIT PROOF.  
 WASHER CIRCUIT 3 AMPS, PUSH SWITCH 20,000 CYCLES MINIMUM.
  - MICROPROCESSOR CONTROLLED, SOLID-STATE RELAY, CURRENT LIMIT SENSE CIRCUIT, REVERSE POLARITY PROTECTED
  - CONFORMS TO SAE J1455:  
 4.11 GENERAL HEAVY DUTY TRUCK ELECTRICAL ENVIRONMENT.  
 4.11.1 STEADY-STATE ELECTRICAL CHARACTERISTICS.  
 4.11.2 TRANSIENT, NOISE AND ELECTROSTATIC CHARACTERISTICS.
  - INTERMITTENT DELAYS: 1, 2, 4, 7, 11 AND 16 SECONDS
  - ALL DIMENSIONS ARE REFERENCE ONLY UNLESS NOTED OTHERWISE.
  - COLE HERSEE PART NUMBER, REVISION, & DATE CODE STAMPED IN WHITE ON REAR PLASTIC COVER.
  - CONNECTOR, DELPHI: 8-PIN, PART# 2965972 (QTY 1)  
 TERMINALS, DELPHI: 2965439 (QTY 8)
  - CONNECTOR, DELPHI: 1-PIN, PART# 8905650 (QTY 1)  
 TERMINALS, DELPHI: 2965439 (QTY 1)
  - UNIT REQUIRES TWO SEPARATE WIRE CONNECTIONS TO MOTOR PARK SIGNALS.  
 THIS MAY REQUIRE RE-WIRING VEHICLE HARNESS. DO NOT CONNECT PARK WIRES TOGETHER.  
 NOTE THAT 1-PIN CONNECTOR (PURPLE WIRE) IS FOR PARK MOTOR #2.
  - WRAP PLASTIC BAG AROUND SWITCH PURPLE WIRE, FOLD AND STAPLE AS SHOWN.



COLOR	FUNCTION	CONNECTOR	TERMINAL
RED	VBB (12V POWER)	8-PIN	A
GREY	HIGH-SPEED MOTOR #2	8-PIN	B
ORANGE	LOW-SPEED MOTOR #2	8-PIN	C
BLACK	GROUND (0V)	8-PIN	D
BLUE	PARK MOTOR #1 (SEE NOTE 11)	8-PIN	E
WHITE	HIGH-SPEED MOTOR#1	8-PIN	F
YELLOW	LOW-SPEED MOTOR #1	8-PIN	G
BROWN	WASHER	8-PIN	H
PURPLE	PARK MOTOR #2 (SEE NOTE 11)	1-PIN	

**Tolerances** Unless otherwise specifically noted, the following are default tolerances:  
 \* 2-place Decimal Dimensions +/- .02"  
 \* 3-place Decimal Dimensions +/- .005"  
 \* Angular Dimensions +/- 1.0 Deg.  
 \* Metric: Refer to equivalent English Dimension Tolerance  
 >>> NOTE: All tolerances are Non-Cumulative. <<<

**Dimensional Units** All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters

"REF." or an Asterisk (\*) = Non-Toleranced Reference Dimension, shown for clarification purposes only.

**PROPRIETARY INFORMATION** This Engineering Drawing, and the information contained herein, is proprietary to Cole Hersee Company and may not be disclosed, re-produced, or in any other way transferred or communicated to any other party without the express written consent of an authorized representative of Cole Hersee Company.

**DESIGN CONTROL** It is the responsibility of the individual using / referencing this drawing to assure that the noted design revision level agrees with the revision level of the Controlled Document (Master Drawing). This is a NON-CONTROLLED DOCUMENT unless otherwise specifically noted.

DO NOT SCALE - Dimensional variation may occur during printing / reproduction.

**Special Characteristics:**

- CC Critical Characteristic, relating to Safety and/or Regulatory Compliance
- X Significant Characteristic relating to Process Control (SPC)
- KC Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer

(Note that the Identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.)

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 Phn: 617-268-2100 Web: www.colehersee.com

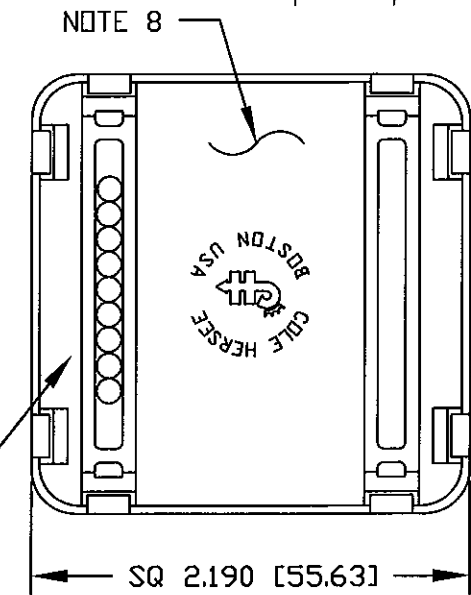
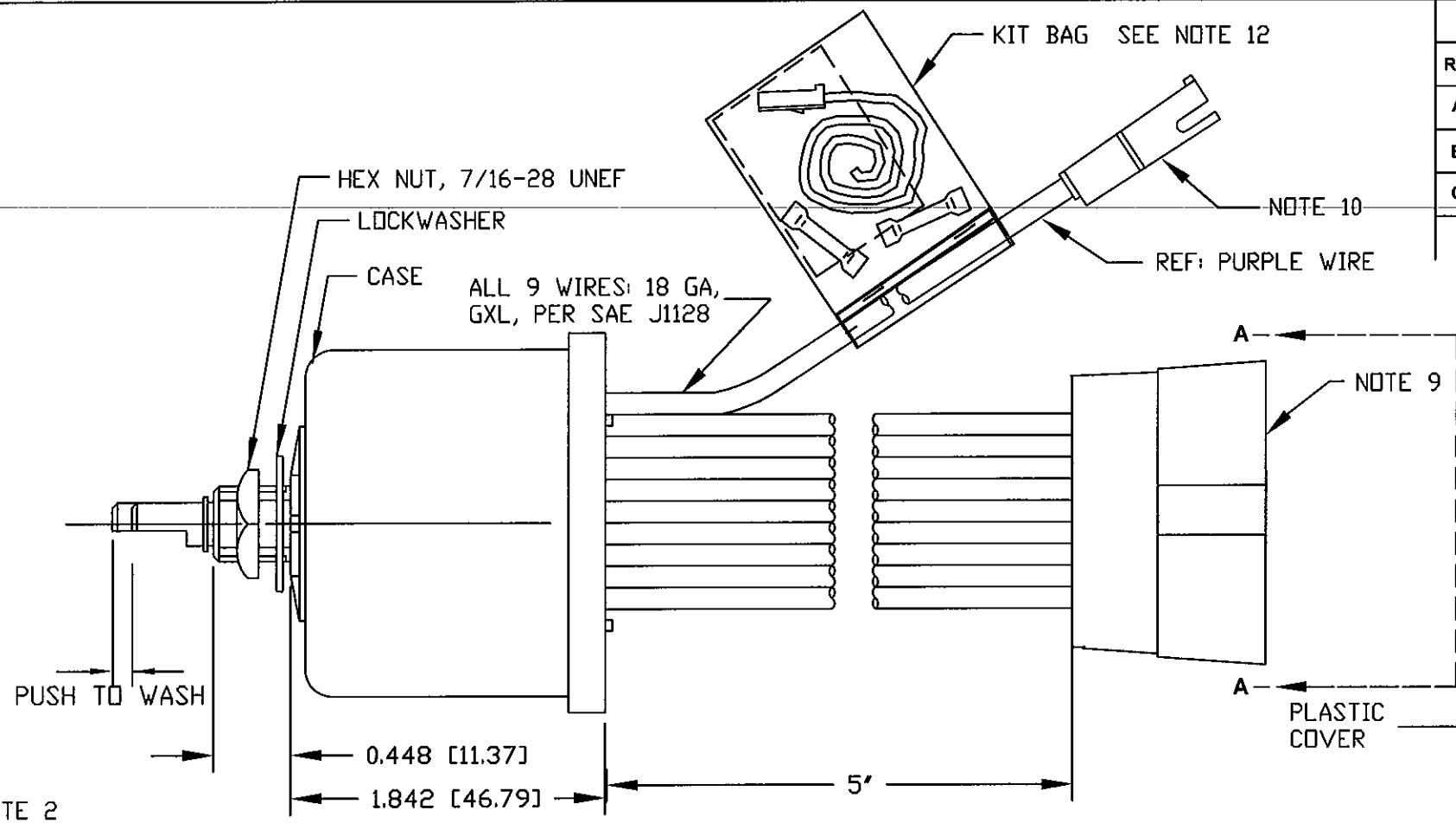
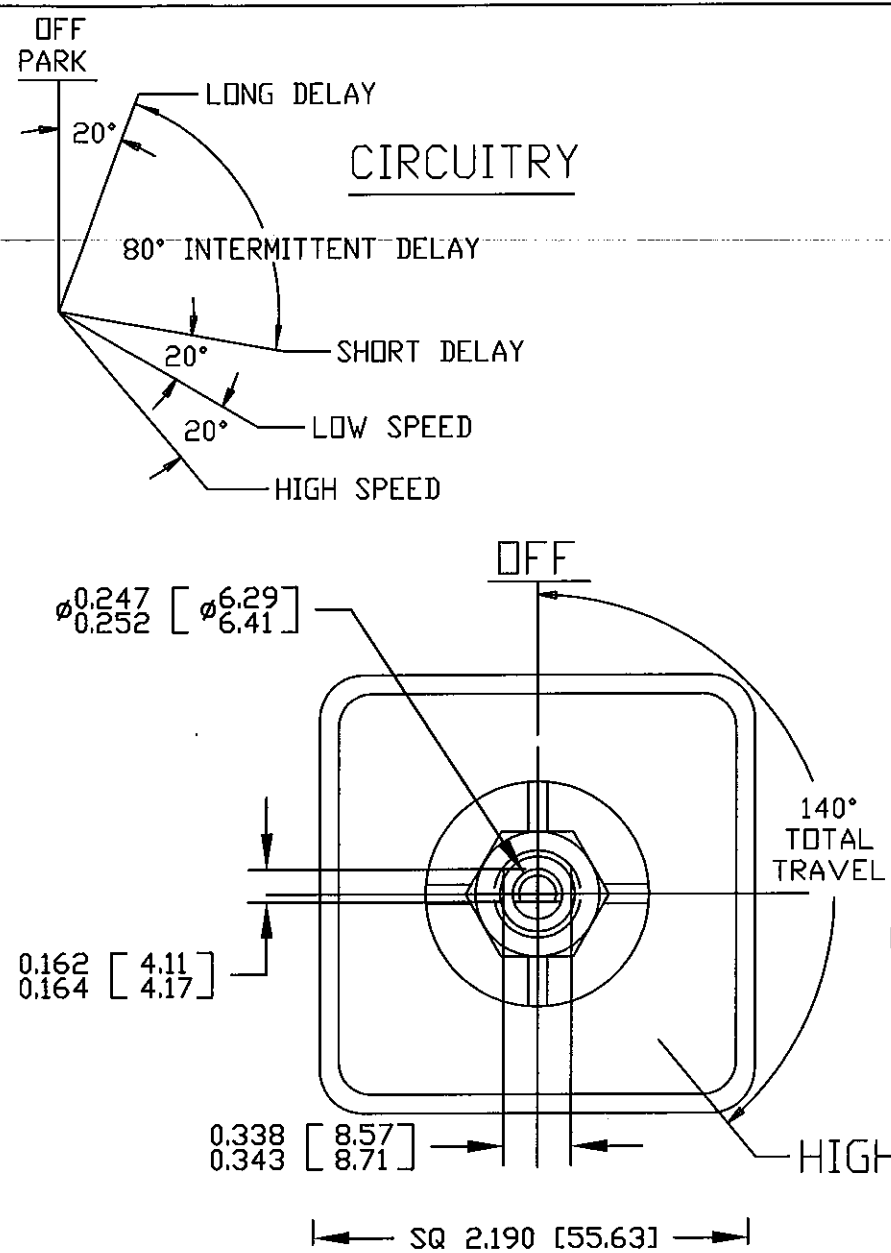
**Description:**  
 WINDSHIELD WIPER CONTROLLER, DUAL-MOTOR, 12V, SSR, NON-DYNAMIC PARK MOTOR

**Drawing / Part No.:** 75601-14

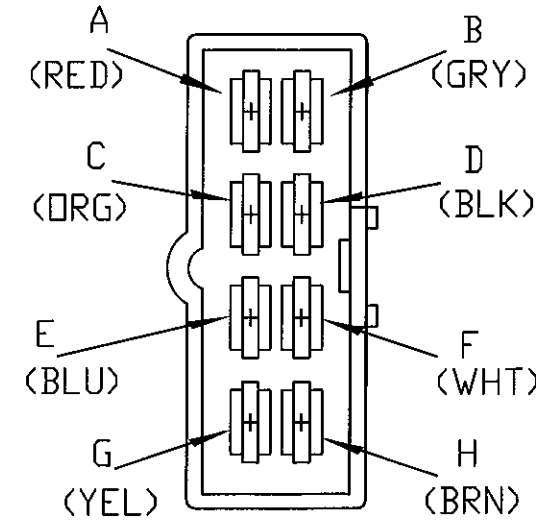
**Current Rev.:** C

**Revision Control Record**

Rev.	Description of Change	ECN No.	Date
A	NEW RELEASE	07476	12/04/07
B	PROGRAM SOFTWARE	08085	01/31/08
C	BOM CHANGE	09587	01/13/10



- NOTES:**
- DESIGNED FOR 12V SYSTEM, DUAL MOTOR. MUST BE USED WITH NON-DYNAMIC PARK MOTORS ONLY.
  - PUSH TO WASH FUNCTION RESULTS IN 3 WIPES AFTER RELEASE OF PUSH SWITCH.
  - RATING: VOLTAGE OPERATING RANGE 9VDC TO 16VDC  
 ROTARY SWITCH ACTUATION 20,000 CYCLES MINIMUM.  
 MOTOR DRIVE: 10 AMPS PER MOTOR CONTINUOUS. START-UP/STALL/LOCKED-ROTOR 30 AMPS. SHORT-CIRCUIT PROOF.  
 WASHER CIRCUIT 3 AMPS, PUSH SWITCH 20,000 CYCLES MINIMUM.
  - MICROPROCESSOR CONTROLLED, SOLID-STATE RELAY, CURRENT LIMIT SENSE CIRCUIT, REVERSE POLARITY PROTECTED
  - CONFORMS TO SAE J1455:  
 4.11 GENERAL HEAVY DUTY TRUCK ELECTRICAL ENVIRONMENT.  
 4.11.1 STEADY-STATE ELECTRICAL CHARACTERISTICS.  
 4.11.2 TRANSIENT, NOISE AND ELECTROSTATIC CHARACTERISTICS.
  - INTERMITTENT DELAYS: 1, 2, 4, 7, 11 AND 16 SECONDS
  - ALL DIMENSIONS ARE REFERENCE ONLY UNLESS NOTED OTHERWISE.
  - COLE HERSEE PART NUMBER, REVISION, & DATE CODE STAMPED IN WHITE ON REAR PLASTIC COVER.
  - CONNECTOR, DELPHI: 8-PIN, PART# 2965972 (QTY 1)  
 TERMINALS, DELPHI: 2965439 (QTY 8)
  - CONNECTOR, DELPHI: 1-PIN, PART# 8905650 (QTY 1)  
 TERMINALS, DELPHI: 2965439 (QTY 1)
  - UNIT REQUIRES TWO SEPARATE WIRE CONNECTIONS TO MOTOR PARK SIGNALS.  
 THIS MAY REQUIRE RE-WIRING VEHICLE HARNESS. DO NOT CONNECT PARK WIRES TOGETHER.  
 NOTE THAT 1-PIN CONNECTOR (PURPLE WIRE) IS FOR PARK MOTOR #2.
  - WRAP PLASTIC BAG AROUND SWITCH PURPLE WIRE, FOLD AND STAPLE AS SHOWN.



**VIEW A-A**

COLOR	FUNCTION	CONNECTOR	TERMINAL
RED	VBB (12V POWER)	8-PIN	A
GREY	HIGH-SPEED MOTOR #2	8-PIN	B
ORANGE	LOW-SPEED MOTOR #2	8-PIN	C
BLACK	GROUND (0V)	8-PIN	D
BLUE	PARK MOTOR #1 (SEE NOTE 11)	8-PIN	E
WHITE	HIGH-SPEED MOTOR #1	8-PIN	F
YELLOW	LOW-SPEED MOTOR #1	8-PIN	G
BROWN	WASHER	8-PIN	H
PURPLE	PARK MOTOR #2 (SEE NOTE 11)	1-PIN	

**Tolerances** Unless otherwise specifically noted, the following are default tolerances:  
 \* 2-place Decimal Dimensions  $\pm .02$ "  
 \* 3-place Decimal Dimensions  $\pm .005$ "  
 \* Angular Dimensions  $\pm 1.0$  Deg.  
 \* Metric: Refer to equivalent English Dimension Tolerance  
 >>> NOTE: All tolerances are Non-Cumulative. <<<

**Dimensional Units** All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters

"REF." or an Asterisk (\*) = Non-Toleranced Reference Dimension, shown for clarification purposes only.

Used On **EX28333** Scale: **1:1**

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**DESIGN CONTROL** It is the responsibility of the individual using / referencing this drawing to assure that the noted design revision level agrees with the revision level of the Controlled Document (Master Drawing). This is a NON-CONTROLLED DOCUMENT unless otherwise specifically noted.

DO NOT SCALE - Dimensional variation may occur during printing / reproduction.

Drawn By: **JCS** Date Drawn: **12/04/07**

**Special Characteristics:**

- Critical Characteristic, relating to Safety and/or Regulatory Compliance
- Significant Characteristic relating to Process Control (SPC)
- Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer

(Note that the Identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.)

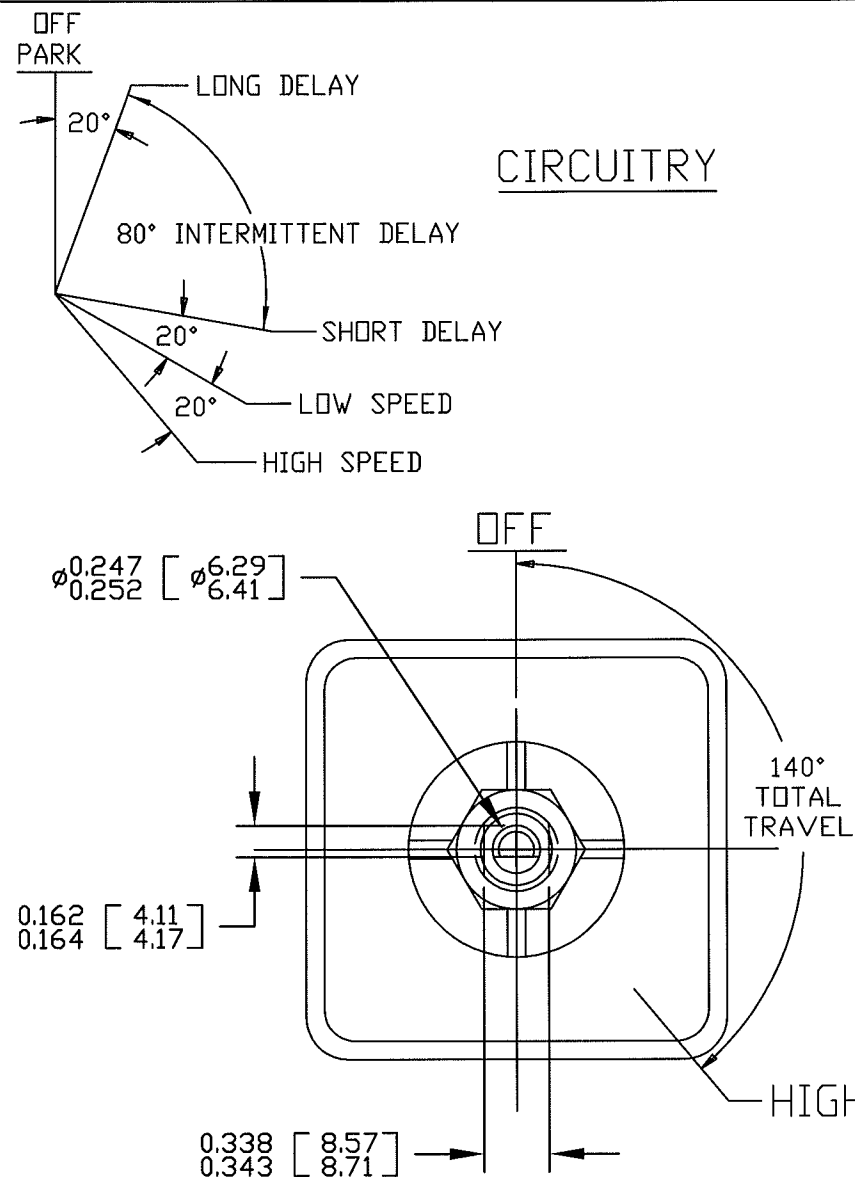
Responsible Engineer: **JCS** Pg. **1**

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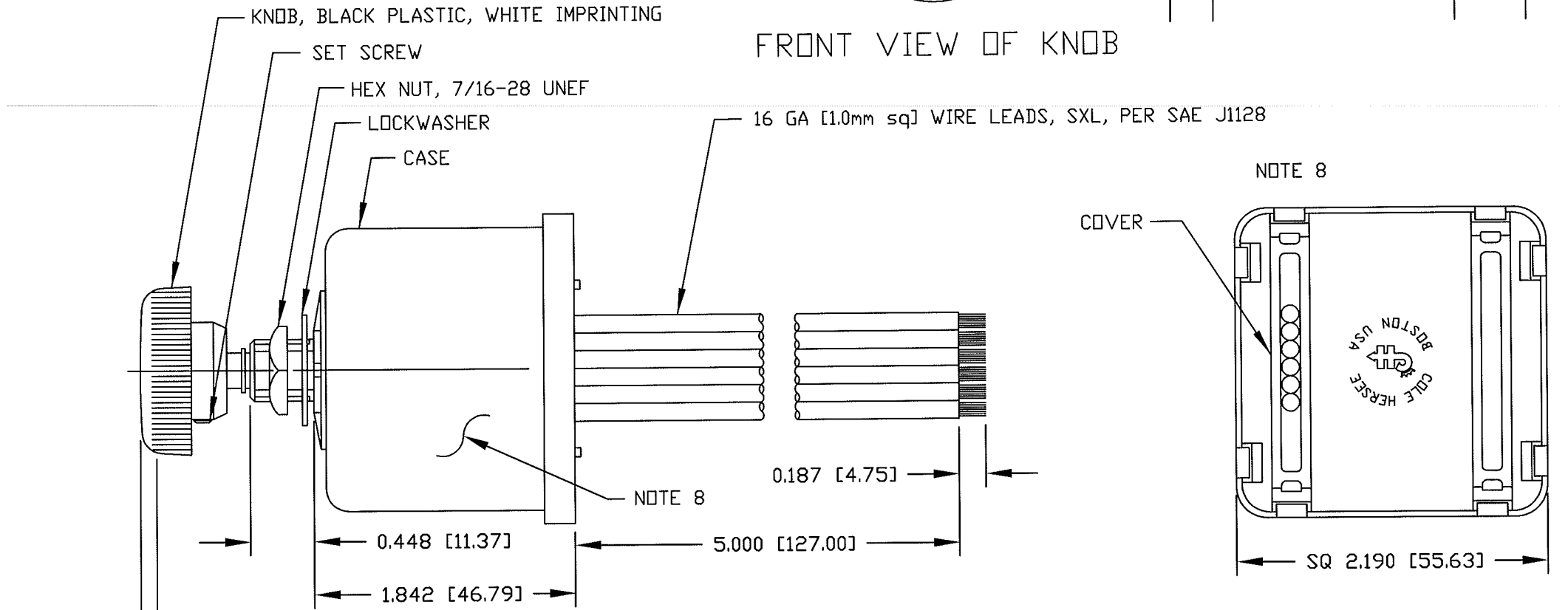
**Description:**  
**WINDSHIELD WIPER CONTROLLER, DUAL-MOTOR, 12V, SSR, NON-DYNAMIC PARK MOTOR**

Drawing / Part No.: **75601-15** Current Rev. **C**





Revision Control Record			
Rev.	Description of Change	ECN No.	Date
H	BOM CHANGE	09588	01/18/10
J	CHANGE NOTE 3	13055	02/07/13



- NOTES:**
- DESIGNED FOR 24V SYSTEM, SINGLE MOTOR, DYNAMIC AND NON-DYNAMIC PARK. TO BE USED WITH PERMANENT MAGNET MOTOR, NEGATIVE GROUND ONLY.
  - PUSH TO WASH FUNCTION: RESULTS IN 2 TO 3 WIPES AFTER RELEASE OF PUSH SWITCH.
  - RATING: VOLTAGE OPERATING RANGE 18VDC TO 32VDC  
ROTARY SWITCH ACTUATION 20,000 CYCLES MINIMUM.  
MOTOR DRIVE: 15 AMPS CONTINUOUS, START-UP/STALL/LOCKED-ROTOR 50 AMPS. SHORT-CIRCUIT PROTECTED.  
WASHER CIRCUIT 3 AMPS, PUSH SWITCH 20,000 CYCLES MINIMUM.
  - MICROPROCESSOR CONTROLLED, SOLID-STATE RELAY, CURRENT LIMIT SENSE CIRCUIT, REVERSE POLARITY PROTECTED
  - CONFORMS TO SAE J1455:  
4.11 GENERAL HEAVY DUTY TRUCK ELECTRICAL ENVIRONMENT.  
4.11.1 STEADY-STATE ELECTRICAL CHARACTERISTICS.  
4.11.2 TRANSIENT, NOISE AND ELECTROSTATIC CHARACTERISTICS.
  - ENVIRONMENTAL EXTREMES BY LOCATION.  
5.2 INTERIOR-FORWARD.
  - ALL STEEL PARTS PLATED.
  - ALL DIMENSIONS ARE REFERENCE ONLY UNLESS NOTED OTHERWISE.
  - COLE HERSEE PART NUMBER, REVISION, & DATE CODE MARKED AT RANDOM ON CASE.

COLOR	CONNECT WIRE TO:
YELLOW	MOTOR LOW SPEED TERMINAL
WHITE	MOTOR HIGH SPEED TERMINAL
BLUE	MOTOR PARK TERMINAL
BLACK	GROUND (B-) THIS CONNECTION MUST BE MADE
BROWN	WASHER PUMP (B+ TERMINAL)
RED	B+

SEPARATE B+ AND GROUND CONNECTIONS MUST BE MADE TO THE WIPER MOTOR

<p><b>Tolerances</b> Unless otherwise specifically noted, the following are default tolerances:          * 2-place Decimal Dimensions +/- .02"          * 3-place Decimal Dimensions +/- .005"          * Angular Dimensions +/- 1.0 Deg.          * Metric: Refer to equivalent English Dimension Tolerance          &gt;&gt;&gt; NOTE: All tolerances are Non-Cumulative. &lt;&lt;&lt;</p> <p><b>Dimensional Units</b> All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters</p> <p>"REF." or an Asterisk (*) = Non-Toleranced Reference Dimension, shown for clarification purposes only.</p>	<p><b>PROPRIETARY INFORMATION</b> This Engineering Drawing, and the information contained herein, is proprietary to Cole Hersee Company and may not be disclosed, re-produced, or in any other way transferred or communicated to any other party without the express written consent of an authorized representative of Cole Hersee Company.</p> <p><b>DESIGN CONTROL</b> It is the responsibility of the individual using / referencing this drawing to assure that the noted design revision level agrees with the revision level of the Controlled Document (Master Drawing). This is a NON-CONTROLLED DOCUMENT unless otherwise specifically noted.</p> <p>DO NOT SCALE - Dimensional variation may occur during printing / reproduction.</p>	<p><b>Special Characteristics:</b></p> <p>CC Critical Characteristic, relating to Safety and/or Regulatory Compliance</p> <p>X Significant Characteristic relating to Process Control (SPC)</p> <p>KC Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer</p> <p>(Note that the identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions &amp; tolerances must be met.)</p>	<p><b>Cole Hersee Co.</b>          20 Old Colony Ave., South Boston, MA, 02127          Phn: 617-268-2100 Web: www.colehersee.com</p> <p><b>Description:</b> WINDSHIELD WIPER &amp; WASHER SW. INTERMITTENT DELAY, 24V.D.C.</p>			
<p>Used On or Ref.: EX-26548</p>	<p>Scale: 1:1</p>	<p>Drawn By: ZU</p>	<p>Date Drawn: 03/13/87</p>	<p>Responsible Engineer: Pg. 1</p>	<p>Drawing / Part No.: 75602-04</p>	<p>Current Rev.: J</p>

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

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- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
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- Тестирование поставляемой продукции.
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- Входной контроль качества.
- Наличие сертификата ISO.

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Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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