

# CESSNA 172M REFERENCE

Version 3.1

| PRIOR TO PREFLIGHT  |                             |
|---|-----------------------------|
| PITOT COVER   | REMOVE                      |
| FUEL SUPPLY   | VISUALLY CHECK QUANTITY     |
| DOORS   | UNLOCK AND LOAD AIRCRAFT    |
| FLIGHT CONTROL LOCK   | REMOVE                      |
| SEATBELTS NOT IN USE  | SECURE AND FASTEN           |
| BAGGAGE   | STOWED AND SECURED PROPERLY |
| AIRCRAFT LOGBOOK  |                             |
| ENSURE THE FOLLOWING INSPECTIONS HAVE BEEN COMPLETED:   |                             |
| ANNUAL/ AD'S  |                             |
| VOR TEST  |                             |
| 100- HOUR   |                             |
| ALTIMETER   |                             |
| TRANSPONDER   |                             |
| ELT   |                             |
| STATIC  |                             |
| DOCUMENTS   |                             |
| AIRWORTHINESS CERTIFICATE   |                             |
| REGISTRATION CERTIFICATE  |                             |
| PLACARDS  |                             |
| AFM/ POH  |                             |
| PERMANENT WEIGHT AND BALANCE INFORMATION  |                             |
| THE FOLLOWING IS IMMEDIATELY AVAILABLE TO FLIGHT CREW:  |                             |
| <ul style="list-style-type: none"><li>- CESSNA 172 PILOT'S OPERATING HANDBOOK</li><li>- GARMIN GTN 650 MANUAL</li><li>- MAGNETIC COMPASS DEVIATION CARD</li></ul> |                             |

| COCKPIT   |                                   |
|---|-----------------------------------|
| IGNITION SWITCH   | OFF                               |
| MIXTURE   | IDLE CUT-OFF                      |
| MASTER SWITCH   | ON                                |
| FUEL QUANTITY INDICATIONS                               | CHECK QTY / IMBALANCE             |
| FLAPS   | EXTEND                            |
| EXTERIOR LIGHTING SWITCHES                              | ON                                |
| PITOT HEAT SWITCH                                       | ON                                |
| EXTERIOR LIGHTING                                       | VERIFY OPERATIONAL                |
| PITOT TUBE  | CHECK WARM                        |
| PITOT HEAT SWITCH                                       | OFF                               |
| ALL LIGHTING SWITCHES (EXCEPT BEACON)                   | OFF                               |
| MASTER SWITCH   | OFF                               |
| ELEVATOR TRIM   | NEUTRAL                           |
| PRIMARY FLIGHT CONTROLS                                 | PROPER OPERATION                  |
| FUEL SELECTOR VALVE                                     | BOTH                              |
| WINDOWS   | CHECK CLEAN                       |
| FUEL  |                                   |
| <b>IF AIRCRAFT NEEDS FUEL, COMPLETE AFTER REFUELING</b> |                                   |
| RIGHT FUEL TANK   | SUMP                              |
| LEFT FUEL TANK  | SUMP                              |
| EMPENNAGE   |                                   |
| RUDDER GUST LOCK (IF INSTALLED)                         | REMOVE                            |
| TAIL TIE-DOWN   | REMOVE                            |
| SURFACE CONDITION                                       | CLEAR OF ICE, FROST, SNOW, DAMAGE |
| CONTROL SURFACES  | FREE & CORRECT                    |
| STATIC WICKS  | CHECK                             |
| BEACON/VOR ANTENNA                                      | CHECK                             |
| ELT ANTENNA   | CHECK                             |

| RIGHT WING                  |                                   |
|-----------------------------|-----------------------------------|
| SURFACE CONDITION           | CLEAR OF ICE, FROST, SNOW, DAMAGE |
| FLAP & HINGES               | NO DAMAGE OR INTERFERENCE         |
| AILERON/HINGES/STATIC WICKS | NO DAMAGE OR INTERFERENCE         |
| WING TIP & LIGHTS           | CHECK CONDITION                   |
| TIE-DOWN                    | REMOVE                            |
| TIRE & BRAKE CALIPER/DISK   | CHECK                             |
| GEAR STRUT                  | CHECK                             |
| FRESH AIR INLET             | CHECK CLEAR                       |
| FUEL CAP                    | VERIFY SECURE                     |
| NOSE                        |                                   |
| GENERAL CONDITION           | CHECK                             |
| COWLING                     | CHECK SECURE                      |
| OIL                         | CHECK QUANTITY                    |
| FUEL STRAINER               | PULL 4 SECONDS                    |
| PROPELLER & SPINNER         | CHECK                             |
| AIR FILTER                  | CHECK                             |
| LANDING LIGHT               | CHECK                             |
| NOSE WHEEL & STRUT          | CHECK                             |
| STATIC PORT                 | CHECK                             |
| LEFT WING                   |                                   |
| SURFACE CONDITION           | CLEAR OF ICE, FROST, SNOW, DAMAGE |
| TIE-DOWN                    | REMOVE                            |
| TIRE & BRAKE CALIPER/DISK   | CHECK                             |
| GEAR STRUT                  | CHECK                             |
| FRESH AIR INLET             | CHECK CLEAR                       |
| STALL WARNING HORN          | CHECK CLEAR                       |
| PITOT TUBE                  | CHECK CLEAR                       |
| FUEL VENT                   | CHECK CLEAR                       |
| FUEL CAP                    | VERIFY SECURE                     |
| WING TIP & LIGHTS           | CHECK CONDITION                   |
| AILERON/HINGES/STATIC WICKS | NO DAMAGE OR INTERFERENCE         |
| FLAP AND HINGES             | NO DAMAGE OR INTERFERENCE         |

| BEFORE START  |                   |
|---|-------------------|
| TOWBAR & BAGGAGE DOOR                                     | STOWED & LOCKED   |
| <b>*SEND A PHOTO OF TACH AND HOBBS TIMES TO DISPATCH*</b> |                   |
| SEATS/ SEATBELTS/ SHOULDER HARNESSSES                     | ADJUST AND FASTEN |
| FUEL SHUTOFF VALVE  | ON                |
| CIRCUIT BREAKERS  | CHECK IN          |
| RADIOS & ELECTRICAL EQUIPMENT                             | OFF               |
| PREFLIGHT/ PASSENGER BOARDING BRIEF                       | COMPLETE          |
| BRAKES  | TEST AND SET      |
| ENGINE START  |                   |
| BEACON  | ON                |
| CARBURETOR HEAT   | OFF               |
| MIXTURE   | RICH              |
| PRIMER  | AS REQUIRED       |
| THROTTLE  | OPEN ¼ INCH       |
| MASTER SWITCH   | ON                |
| PROPELLER AREA  | CLEAR             |
| IGNITION SWITCH   | START             |
| OIL PRESSURE  | CHECK             |
| BEFORE TAXI   |                   |
| AVIONICS MASTER SWITCH                                    | ON                |
| GTN 650 DATABASE  | VERIFY CURRENT    |
| GTN 650 FUEL LOADING                                      | COMPLETE          |
| ATIS/ ASOS/ AWOS  | OBTAIN            |
| ALTIMETER   | SET AND CORRECT   |
| TRANSPONDER   | AS APPROPRIATE    |
| LIGHTS  | AS REQUIRED       |
| FLAPS   | RETRACT           |
| BRAKES  | RELEASE           |

| TAXIING   |  |
|---|--|
| TAXI AREA   | CLEAR                                  |
| THROTTLE  | APPLY SLOWLY                           |
| BRAKES/STEERING                                     | CHECK                                  |
| INSTRUMENT COCKPIT CHECK                            | AS REQUIRED                            |
| HEADING – <i>ALIGN WITH MAGNETIC COMPASS</i>        |  |
| AIRSPEED – <i>ZERO</i>                              |  |
| ATTITUDE – <i>LEVEL</i>                             |  |
| SLIP/SKID – <i>OPPOSITE THE DIRECTION OF TURN</i>   |  |
| ALTIMETER – <i>WITHIN 75FT OF AIRPORT ELEVATION</i> |  |
| VERTICAL SPEED – <i>ZERO</i>                        |  |
| GROUND CHECK  |  |
| BRAKES  | SET & HOLD                             |
| FLIGHT CONTROLS                                     | FREE AND CORRECT                       |
| ELEVATOR TRIM                                       | TAKE-OFF                               |
| MIXTURE   | FULL RICH                              |
| THROTTLE  | APPLY SLOWLY 1700 RPM                  |
| ENGINE INDICATIONS                                  | CHECK IN GREEN                         |
| AMMETER   | CHECK NORMAL                           |
| SUCTION GAUGE                                       | CHECK IN GREEN                         |
| MAGNETOS  | CHECK BOTH (MAX DROP 125/ MAX DIFF 50) |
| CARBURETOR HEAT                                     | CHECK                                  |
| THROTTLE  | RETARD/ ADJUST                         |
| NAV EQUIPMENT / COMM RADIOS                         | SET AS DESIRED                         |
| FLAPS SET FOR TAKEOFF                               | VISUALLY CHECK                         |
| BEFORE TAKEOFF                                      |  |
| TAKEOFF AND EMERGENCY BRIEFING                      | COMPLETE                               |
| CABIN DOOR  | LOCKED AND SECURED                     |
| ACTIVE COMM FREQUENCY                               | TOWER/CTAF                             |
| AFTER RECEIVING CLEARANCE:                          |  |
| MIXTURE   | RICH                                   |
| LIGHTS  | ON                                     |
| CARB HEAT   | COLD                                   |
| PITOT HEAT  | AS REQUIRED                            |

| VFR TAKEOFF AND EMERGENCY BRIEF                         |  |
|---|--|
| DEPARTING RUNWAY AND RUNWAY LENGTH                      |  |
| TAKEOFF PERFORMANCE                                     |  |
| ABNORMALITIES ON TAKEOFF ROLL                           |  |
| ABORT POINT   |  |
| ENGINE FAILURE AFTER TAKEOFF BELOW 700FT AGL/ _____ MSL |  |
| ENGINE FAILURE AFTER TAKEOFF ABOVE 700FT AGL/ _____ MSL |  |
| DESIGNATE PILOT IN COMMAND IN THE EVENT OF AN EMERGENCY |  |
| IFR TAKEOFF AND EMERGENCY BRIEF                         |  |
| ENSURE GPS RECEPTION                                    |  |
| DEPARTING RUNWAY AND RUNWAY LENGTH                      |  |
| TAKEOFF PERFORMANCE                                     |  |
| ABORT POINT   |  |
| DEPARTURE PROCEDURE                                     |  |
| RATE OF CLIMB   |  |
| URGENCY REQUIRING RETURN TO AIRPORT                     |  |
| ABNORMALITIES ON TAKEOFF ROLL                           |  |
| ENGINE FAILURE AFTER TAKEOFF BELOW 700FT AGL/ _____ MSL |  |
| ENGINE FAILURE AFTER TAKEOFF ABOVE 700FT AGL/ _____ MSL |  |
| IMC ENGINE FAILURE                                      |  |

| AIRSPEEDS              |                            |
|------------------------|----------------------------|
| $V_R - 55$ KIAS        | $V_G - 65$ KIAS            |
| $V_Y - 78$ KIAS        | $V_{FE} - 85$ KIAS         |
| $V_X - 64$ KIAS        | $V_{NO} - 128$ KIAS        |
| $V_S - 50$ KIAS        | $V_{NE} - 160$ KIAS        |
| $V_{SO} - 44$ KIAS     | $V_a - 97$ KIAS (2300 LBS) |
| CRUISE CLIMB – 85 KIAS | $V_a - 89$ KIAS (1950 LBS) |

| RATE OF CLIMB OR DESCENT TABLE |       |   |      |      |       |       |       |
|--------------------------------|-------|---|------|------|-------|-------|-------|
|                                |       | RATE REQUIRED FOR GS ROUNDED UP TO 50 FPM |      |      |       |       |       |
| GRAD                           | FT/NM | 60GS                                      | 80GS | 90GS | 100GS | 110GS | 120GS |
| 1.9                            | 200   | 200                                       | 300  | 300  | 350   | 400   | 400   |
| 2.1                            | 223   | 250                                       | 300  | 350  | 400   | 450   | 450   |
| 2.3                            | 244   | 250                                       | 350  | 350  | 400   | 450   | 450   |
| 2.5                            | 265   | 300                                       | 400  | 400  | 450   | 500   | 550   |
| 2.7                            | 286   | 300                                       | 400  | 450  | 500   | 550   | 600   |
| 2.8                            | 297   | 300                                       | 400  | 450  | 500   | 550   | 600   |
| 2.9                            | 307   | 350                                       | 450  | 500  | 550   | 600   | 650   |
| 3.0                            | 318   | 350                                       | 450  | 500  | 550   | 600   | 650   |
| 3.1                            | 329   | 350                                       | 450  | 500  | 550   | 650   | 700   |
| 3.2                            | 339   | 350                                       | 500  | 550  | 600   | 650   | 700   |
| 3.3                            | 350   | 350                                       | 500  | 550  | 600   | 650   | 700   |
| 3.5                            | 371   | 400                                       | 500  | 600  | 650   | 700   | 750   |
| 3.7                            | 392   | 400                                       | 550  | 600  | 700   | 750   | 800   |
| 3.9                            | 413   | 450                                       | 600  | 650  | 700   | 800   | 850   |
| 4.0                            | 424   | 450                                       | 600  | 650  | 750   | 800   | 850   |
| 4.2                            | 445   | 450                                       | 600  | 700  | 750   | 850   | 900   |
| 4.4                            | 466   | 500                                       | 650  | 700  | 800   | 900   | 950   |
| 4.6                            | 487   | 500                                       | 650  | 750  | 850   | 900   | 1000  |
| 4.8                            | 508   | 550                                       | 700  | 800  | 850   | 950   | 1050  |
| 5.0                            | 530   | 550                                       | 750  | 800  | 900   | 1000  | 1100  |

| HEADWIND/CROSSWIND |        |         |         |         |         |         |         |        |        |
|--------------------|--------|---------|---------|---------|---------|---------|---------|--------|--------|
| WIND               | 10°    | 20°     | 30°     | 40°     | 50°     | 60°     | 70°     | 80°    | 90°    |
| 10KTS              | 10 / 2 | 9 / 3   | 9 / 5   | 8 / 6   | 6 / 8   | 5 / 9   | 3 / 9   | 2 / 10 | 0 / 10 |
| 20KTS              | 20 / 3 | 19 / 7  | 17 / 10 | 15 / 13 | 13 / 15 | 10 / 17 | 7 / 19  | 3 / 20 | 0 / 20 |
| 30KTS              | 30 / 5 | 28 / 10 | 26 / 15 | 23 / 19 | 19 / 23 | 15 / 26 | 10 / 28 | 5 / 30 | 0 / 30 |
| 40KTS              | 39 / 7 | 38 / 14 | 35 / 20 | 31 / 26 | 26 / 31 | 20 / 35 | 14 / 38 | 7 / 39 | 0 / 40 |

| CLIMB                                     |                         |
|---|-------------------------|
| FLAPS                                     | UP                      |
| AIRPEED                                   | AS APPROPRIATE          |
| THROTTLE                                  | FULL OPEN               |
| MIXTURE                                   | RICH                    |
| ENGINE INSTRUMENTS                        | CHECK/ MONITOR          |
| CRUISE                                    |                         |
| POWER                                     | SET PER POWER TABLE     |
| MIXTURE                                   | LEAN TO MAX RPM         |
| TRIM                                      | ADJUST                  |
| ENGINE INSTRUMENTS                        | CHECK/ MONITOR          |
| LIGHTS                                    | AS REQUIRED             |
| IN RANGE/ DESCENT                         |                         |
| ATIS/ AWOS/ ASOS                          | OBTAIN                  |
| ALTIMETER                                 | SET                     |
| LIGHTS                                    | AS APPROPRIATE          |
| COM/ NAV RADIOS                           | SET                     |
| POWER                                     | SET                     |
| MIXTURE                                   | ENRICHEN AS APPROPRIATE |
| BEFORE LANDING                            |                         |
| PARKING BRAKE/ TOE BRAKES                 | VERIFY OFF/ CHECK       |
| FUEL SHUTOFF VALVE                        | ON                      |
| LIGHTS                                    | AS REQUIRED             |
| MIXTURE                                   | RICH                    |
| CARBURETOR HEAT                           | ON                      |
| SEATBELTS/ SHOULDER HARNESSSES/SEAT BACKS | ON/ERECT                |
| FLAPS                                     | AS REQUIRED             |
| AIRPEED                                   | AS APPROPRIATE          |
| AFTER LANDING                             |                         |
| FLAPS                                     | UP                      |
| CARBURETOR HEAT                           | OFF                     |
| MIXTURE                                   | LEAN AS APPROPRIATE     |
| LIGHTS                                    | AS REQUIRED             |

| SHUTDOWN  |               |
|---|---------------|
| TRANSPONDER   | VFR           |
| AVIONICS MASTER   | OFF           |
| ELECTRICAL SWITCHES (EXCEPT BEACON)                       | OFF           |
| INTERIOR LIGHTS   | OFF           |
| THROTTLE  | 1000 RPM      |
| MIXTURE   | IDLE CUTOFF   |
| IGNITION SWITCH   | OFF           |
| MASTER SWITCH   | OFF           |
| FUEL SELECTOR   | LEFT OR RIGHT |
| POST FLIGHT   |               |
| <b>*SEND A PHOTO OF TACH AND HOBBS TIMES TO DISPATCH*</b> |               |
| ENSURE THE FOLLOWING ARE INSTALLED AND SECURED:           |               |
| CONTROL LOCK  |               |
| TIE DOWNS   |               |
| CHOCKS  |               |
| PITOT COVER   |               |
| SUNSHADES   |               |
| PARKING BRAKE   | RELEASED      |
| AIRCRAFT INTERIOR   | CLEAN         |
| DOORS   | LOCKED        |

# CESSNA 172M

## EMERGENCY REFERENCE

| ENGINE FIRE – DURING START                    |                          |
|---|--------------------------|
| START SWITCH                                  | CONTINUE CRANKING ENGINE |
| MIXTURE                                       | IDLE CUTOFF              |
| THROTTLE                                      | OPEN                     |
| FUEL SELECTOR VALVE                           | OFF                      |
| IF FIRE CONTINUES                             | EGRESS                   |
| EGRESS  |                          |
| RADIO CALL                                    | COMPLETE                 |
| MASTER/IGNITION SWITCHES                      | OFF                      |
| PARKING BRAKE                                 | AS REQUIRED              |
| FIRE EXTINGUISHER                             | AQUIRE                   |
| ENGINE FIRE – IN FLIGHT                       |                          |
| FUEL SELECTOR VALVE                           | OFF                      |
| THROTTLE                                      | CLOSED                   |
| MIXTURE                                       | IDLE CUTOFF              |
| MASTER SWITCH                                 | OFF                      |
| CABIN HEAT                                    | OFF                      |
| IF FIRE PERSISTS - INCREASE AIRSPEED 100 KIAS |                          |
| PROCEED WITH POWER OFF LANDING PROCEDURE      |                          |
| ELECTRICAL FIRE – IN FLIGHT                   |                          |
| MASTER SWITCH                                 | OFF                      |
| ALL SWITCHES (EXCEPT IGNITION)                | OFF                      |
| VENTS   | OPEN                     |
| CABIN HEAT                                    | OFF                      |
| FIRE  | EXTINGUISH               |
| EMERGENCY DESCENT                             | IF APPROPRIATE           |
| LAND AS SOON AS POSSIBLE                      |                          |

| <b>ENGINE ROUGHNESS</b>   |   |
|---|---|
| CARBURETOR HEAT   | ON  |
| ENGINE INDICATIONS  | CHECK   |
| IF ROUGHNESS CONTINUES:   |   |
| MIXTURE   | ADJUST  |
| CARBURATOR HEAT   | OFF   |
| LEFT MAG  | OFF THEN ON                                     |
| RIGHT MAG   | OFF THEN ON                                     |
| <b>PREPARE FOR POWER OFF LANDING</b>                              |   |
| <b>ENGINE POWER LOSS – DURING FLIGHT</b>                          |   |
| <b>AIRSPPEED</b>  | <b>MAINTAIN 65 KIAS</b>                         |
| <b>FUEL SELECTOR VALVE</b>  | <b>BOTH</b>                                     |
| <b>MIXTURE</b>  | <b>RICH</b>                                     |
| <b>CARBURETOR HEAT</b>  | <b>ON</b>                                       |
| <b>LEFT/ RIGHT MAG</b>  | <b>OFF THEN ON</b>                              |
| <b>WHEN POWER IS RESTORED:</b>                                    |   |
| CARBURETOR HEAT   | CLOSE   |
| LAND AS SOON AS PRACTICAL   |   |
| <b>IF POWER IS NOT RESTORED: PREPARE FOR POWER OFF LANDING</b>    |   |
| <b>POWER OFF LANDING</b>  |   |
| <b>AIRSPPEED</b>  | <b>MAINTAIN 65 KIAS</b>                         |
| <b><i>SQUAWK 7700 AND MAKE EMERGENCY CALL IF TIME PERMITS</i></b> |   |
| THROTTLE/ MIXTURE   | CLOSE/ IDLE CUTOFF                              |
| ELT   | ON  |
| LEFT/ RIGHT MAGNETOS  | OFF   |
| MASTER SWITCH   | OFF   |
| FUEL SELECTOR VALVE   | OFF   |
| <b>WHEN COMMITTED TO LAND:</b>                                    |   |
| LANDING PATTERN   | ESTABLISH 1000 FT ABOVE FIELD DOWNWIND POSITION |
| AIRSPPEED   | 60-65 KIAS                                      |
| FLAPS   | AS DESIRED                                      |
| SEATBELT/ SHOULDER HARNESS  | TIGHTEN   |
| DOOR  | UNLATCH/ OPEN                                   |
| <b>PROCEED WITH EGRESS PROCEDURE</b>                              |   |

| OIL PRESSURE   |                          |
|--|--------------------------|
| <b>LOW OIL PRESSURE:</b>   |                          |
| THROTTLE   | MINIMUM REQUIRED         |
| LOW OIL PRES. + <i>HIGH OIL TEMP</i> : LAND AS SOON AS POSSIBLE    |                          |
| LOW OIL PRES. + <i>NORMAL OIL TEMP</i> : LAND AS SOON AS PRACTICAL |                          |
| <b>HIGH OIL PRESSURE:</b>  |                          |
| THROTTLE   | MINIMUM REQUIRED         |
| LAND AS SOON AS PRACTICAL  |                          |
| <b>IF ENGINE STOPS PROCEED WITH POWER OFF LANDING</b>              |                          |
| HIGH OIL TEMPERATURE   |                          |
| THROTTLE   | MINIMUM REQUIRED         |
| MIXTURE  | FULL RICH                |
| AIRSPEED   | INCREASE IF PRACTICAL    |
| <b>LAND AS SOON AS POSSIBLE, PREPARE FOR POWER OFF LANDING</b>     |                          |
| LOSS OF FUEL FLOW  |                          |
| MIXTURE  | RICH                     |
| FUEL SELECTOR VALVE  | BOTH                     |
| THROTTLE   | RE-ESTABLISH AS REQUIRED |
| <b>IF POWER IS NOT RESTORED: PREPARE FOR POWER OFF LANDING</b>     |                          |

| <b>EXCESSIVE RATE OF CHARGE</b>   |  |
|---|--|
| VERIFY FAILURE  | CHECK ALTR AMPS & OVER VOLTAGE LIGHT       |
| MASTER SWITCH   | OFF  |
| MASTER SWITCH   | ON   |
| VERIFY CORRECTION   | CHECK ALTR AMPS                            |
| IF ISSUE PERSISTS:<br>ALTERNATOR OFF<br>CONSERVE BATTERY<br>LAND AS SOON AS PRACTICAL |  |
| <b>INSUFFICIENT RATE OF CHARGE</b>  |  |
| VERIFY FAILURE  | CHECK ALTR AMPS                            |
| NON-ESSENTIAL EQUIPMENT   | OFF  |
| LAND AS SOON AS PRACTICAL   |  |
| <b>SPIN RECOVERY</b>  |  |
| <b>THROTTLE</b>   | <b>IDLE</b>                                |
| <b>AILERONS</b>   | <b>NEUTRAL</b>                             |
| <b>RUDDER</b>   | <b>FULL OPPOSITE DIRECTION OF ROTATION</b> |
| <b>CONTROL WHEEL</b>  | <b>FULL FORWARD</b>                        |
| <b>WHEN ROTATION STOPS:</b>   |  |
| RUDDER  | NEUTRAL                                    |
| CONTROL WHEEL   | SMOOTH BACK PRESSURE TO RECOVER FROM DIVE  |
| <b>DOOR OPEN IN FLIGHT</b>  |  |
| AIRSPEED  | SLOW AS PRACTIAL                           |
| CABIN VENTS   | CLOSE                                      |
| WINDOWS   | OPEN                                       |
| DOOR  | CLOSE & SECURE                             |

REVISION 3.1