Chapter 8: Appendix 8A

PCC Standard Sheets
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LONGITUDINAL JOINT SAWCUTTING

STAGE 1 SAWCUT

STAGE 2 SAWCUT

DETAIL 'A'
TWO STAGE SAWCUT BETWEEN LANES PLACED SIMULTANEOUSLY

DETAIL 'B'
SAWCUT BETWEEN LANES PLACED SEPARATELY

LONGITUDINAL JOINT SEALING

DETAIL 'C'
SILICONE SEAL OPTION
SEE NOTE 31

DETAIL 'D'
PREFORMED ELASTIC LONGITUDINAL JOINT SEALER OPTION
(B705-10)
SEE NOTE 31

GENERAL NOTES:
1. PAVEMENT SLAB THICKNESS PER CONTRACT DOCUMENTS.
2. STAGE 1 SAWCUTS ARE NOT REQUIRED BETWEEN LAKES PLACED SEPARATELY.
3. USE OF SILICONE OR PREFORMED ELASTIC LONGITUDINAL JOINT SEALER IS THE CONTRACTOR'S OPTION UNLESS MATERIAL TYPE IS SPECIFIED IN THE CONTRACT DOCUMENTS.
DETAIL 'A'
CONTRACTION JOINT

DETAIL 'B'
EXPANSION JOINT
UTILITY ISOLATION CONDITION SHOWN

GENERAL NOTES:
1. SLAB THICKNESS (T) PER CONTRACT DOCUMENTS.
2. SEE STANDARD SHEET M502-11 FOR DOWEL DIAMETER AND PLACEMENT INFORMATION.
3. TRANSVERSE JOINT SUPPORTS MUST MEET REQUIREMENTS OF NYSDOT SPECIFICATION SD05-15.
4. UTILITY ISOLATION PPC PAVEMENT IS EITHER WIRE MESH REINFORCED OR HEAVILY REINFORCED. SEE STANDARD SHEETS M502-11 THROUGH M502-29 FOR ADDITIONAL DETAILS.
5. DO NOT TAP EXPANSION CAPS ONTO DOMELE.
6. FOR APPROVED CORROSION RESISTANT COATINGS, REFER TO ENGS-15. TRANSVERSE JOINT SUPPORTS, AND ITS ASSOCIATED APPROVED LISTS. CUT ENDS OF DOMELES DO NOT NEED TO BE COATED.

DETAIL 'C'
ISOLATION JOINT
UTILITY ISOLATION CONDITION SHOWN

NOTES: AN ISOLATION JOINT CONTAINS NO LOAD TRANSFER DEVICE
TRANSVERSE CONTRACTION JOINT SAWCUTTING

TWO STAGE SAWCUT FOR TRANSVERSE JOINT

TRANSVERSE JOINT SEALING

PREFORMED ELASTIC JOINT SEALER INSTALLATION AT EDGE OF PAVEMENT

GENERAL NOTES:
1. SLAB THICKNESS PER CONTRACT DOCUMENTS.
2. EXPANSION, CONSTRUCTION, AND ISOLATION JOINTS DO NOT REQUIRE STAGE 1 SAWCUTS.
3. PERFORM STAGE 1 SAWCUTS WITH BEVEL ON CONSTRUCTION JOINTS.
4. SEAL CONSTRUCTION JOINTS EXACTLY LIKE CONSTRUCTION JOINTS.
5. BOLT AND NUT EXPANSION AND ISOLATION JOINTS TO THE STAGE 2 SAWCUT DIMENSIONS. SEAL EXPANSION AND ISOLATION JOINTS EXACTLY LIKE CONSTRUCTION JOINTS.
6. USE OF SILICONE OR PREFORMED ELASTIC JOINT SEALERS IS THE CONTRACTOR'S OPTION UNLESS MATERIAL TYPE IS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. THE STAGE 2 SAWCUT DOWN THE SIDE OF THE SLAB IS ONLY REQUIRED FOR THE PREFORMED ELASTIC JOINT SEALER, NOT THE SILICONE SEAL OPTION.
8. CONSTRUCT TRANSVERSE JOINTS ACROSS TIED PCC SHOULDERERS. ALLOWS TRANSVERSE JOINTS TO BE INSTALLED WITH TRANSVERSE JOINT SUPPORTS. TRANSVERSE JOINT SUPPORTS ARE NOT REQUIRED ON TIED PCC SHOULDERERS.

SHEET NOTES:
- PCC STANDS FOR PORTLAND CEMENT CONCRETE
- ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

METRIC STANDARD SHEETS

TRANSVERSE JOINT SAWING AND SEALING

APPROVED ON 9-16-2000

ISSUED UNDER GD 80-565

M502-16
UTILITY ISOLATION & JOINT LAYOUT

GENERAL NOTES:
1. THE CONTRACTOR IS RESPONSIBLE FOR THE FINAL JOINT LAYOUT BASED ON THE ACTUAL LOCATIONS OF UTILITIES AND DRAINAGE STRUCTURES WITHIN THE PAVEMENT AND CONSTRUCTION STAGES. THE CONTRACTOR MUST SUBMIT A PROPOSED JOINT LAYOUT NOT LESS THAN 30 DAYS BEFORE beginnning to construct the joint. THE CONTRACTOR WILL BE REQUIRED TO DETAIL THE JOINTS AND OTHER AREAS PROPOSED TO BE SURFACE DEPARTMENTS APPROVAL. FILLING SHALL NOT BEGIN UNTIL THE JOINT LAYOUT IS APPROVED BY THE ENGINEER.

2. JOINT LAYOUT METHODOLOGY:
A. LOCATE LONGITUDINAL JOINTS.
B. LOCATE TRANSVERSE JOINTS OR TIES AND ORIGINS OF STRAIGHT RUNS OR CURVED RUNS OF STRAIGHT RUNS IN A MANNER THAT ALLOWS FOR STATIC ALIGNMENT.
C. SELECT A TELESCOPING CASTING OR AN APPROPRIATE INSTALLATION METHOD THAT IS ACCESSIBLE FOR INSTALLATION OF UTILITIES AND DRAINAGE STRUCTURES.
D. LOCATE THE TRANSVERSE JOINTS OR TIES AND UNITED LONGITUDINAL OR TIES AND OTHER STRUCTURES THAT ARE CONSISTENT WITH THE CONTRACTOR'S DESIGN.
E. ENSURE SPACE IS LEFT BETWEEN TRANSVERSE JOINTS OR TIES AND DRAINAGE STRUCTURES TO PROVIDE EASE OF INSTALLATION.
F. DESIGN AND LAYOUT THE LONGITUDINAL JOINT TIES AND TRANSVERSE JOINT TIES.

3. PCC SLAB ASPECT RATIO FOR A SLAB GEOMETRY
A. THE ASPECT RATIO A: B IS THE RATIO OF SLAB WIDTH AT TO SLAB LENGTH L:
B. FOR SLABS WITHOUT TRANSVERSE JOINTS, THE CONSTRUCTION SIGNS RECOMMEND THE FOLLOWING GEOMETRIC CRITERIA:
C. A: B IN THE RANGE OF 1.0 TO 2.5.
D. A: B IN THE RANGE OF 1.0 TO 3.0.

4. TRANSVERSE JOINT TYPE SELECTION
A. THERE ARE THREE BASIC TYPES OF TRANSVERSE JOINTS: CONTACT, CONSTRUCTION, AND EXPANSION.
B. CONTACT JOINTS ARE USED AT CORNERS AND ARE ALIGNED PERPENDICULAR TO THE LONGITUDINAL JOINT. CONTACT JOINT TYPE, LOCATION, AND SIZE MAY BE CHANGED TO ACCOMMODATE DRAINAGE STRUCTURES.
C. CONSTRUCTION JOINTS ARE USED AT THE INTERFACE BETWEEN THE SLAB AND THE UNDERLYING MATERIAL.
D. CONSTRUCTION JOINTS ARE USED AT INTERSECTIONS TO PROVIDE EASE OF INSTALLATION.
E. EXPANSION JOINTS ARE USED AT EXPANSION JOINTS TO PROVIDE EASE OF INSTALLATION.
F. TRANSVERSE JOINTS ARE NOT CAPABLE OF WITHSTANDING LOADS BECAUSE THEY DO NOT CONTAIN LOAD TRANSFER DEVICES. THEREFORE, THEY ARE USED TO ISOLATE UTILITIES AND DRAINAGE STRUCTURES IN AREAS NOT DIRECTLY EXPOSED TO TRAFFIC.

5. UTILITY AND DRAINAGE STRUCTURE INSTALLATION:
A. FOLLOW THE TYPICAL UTILITY INSTALLATION GUIDELINE TO INSTALL UTILITY PIPES AND DRAINAGE STRUCTURES ON STANDARD SHEET MS02-18 TO SELECT THE APPROPRIATE INSTALLATION METHOD.
B. PLACE UTILITY PIPES AND DRAINAGE STRUCTURES IN A MANNER THAT ALLOWS FOR EASE OF INSTALLATION.
C. PLACE UTILITY PIPES AND DRAINAGE STRUCTURES IN A MANNER THAT ALLOWS FOR EASE OF INSTALLATION.
D. PLACE UTILITY PIPES AND DRAINAGE STRUCTURES IN A MANNER THAT ALLOWS FOR EASE OF INSTALLATION.
E. PLACE UTILITY PIPES AND DRAINAGE STRUCTURES IN A MANNER THAT ALLOWS FOR EASE OF INSTALLATION.
F. PLACE UTILITY PIPES AND DRAINAGE STRUCTURES IN A MANNER THAT ALLOWS FOR EASE OF INSTALLATION.

LEGEND FOR PLAN VIEW DETAILS

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JOINT DETAIL REFERENCE

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STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

METRIC STANDARD SHEETS
UTILITY ISOLATION AND JOINT LAYOUT

GENERAL NOTES

APPROVED OCT 16, 2000
ISSUED UNDER ON 05-07
MS02-17
TYPICAL UTILITY ISOLATION PLAN

TYPICAL UTILITY ISOLATION GUIDELINES

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TABLE NOTES:
1. WHEN THE PRECAST CONCRETE PAVERS OF A NON-TELESCOPING MANHOLE CASTING OR THE MASONRY PORTION OF A SHALLOW UTILITY IS WITHIN 300 MM OF A LENGTHENING JOINT, ISOLATE THE UTILITY AS SHOWN IN EITHER CONDITION B OR CONDITION C, RESPECTIVELY.
2. FOR SHALLOW UTILITIES, THE 300 MM OFFSET CRITERIA IS BASED ON THE DISTANCE BETWEEN THE CONSTRUCTIONAL JOINT AND THE MASONRY PORTION OF THE STRUCTURE, NOT THE CASTING ON PRECAST CONCRETE PAVERS.
3. PAVEMENT NOT ROUTINELY EXPOSED TO TRAFFIC IS NOT HEAVILY REINFORCED.

TELESCOPING MANHOLE SUBLUTIONS

1. SEE GENERAL NOTES AND LEGEND ON SHEET W502-17.
DETAIL 'A' DRAINAGE STRUCTURE ISOLATION

EXPOSED TO TRAFFIC CONDITIONS SHOWN SEE NOTE 51
CONDITION T ON SHEET M502-10

GENERAL NOTES:

1. SEE GENERAL NOTES AND LEGENDS ON SHEET M502-17.
2. MAINTAIN 5.5 m SLAB LENGTHS. SLABS MAY BE LENGTHENED TO 8.0 m TO PREVENT COMPLETE WITH STRUCTURE. IF ADJACENT SLABS MEET SHEET M502-17, NOTE 54 ARE SATISFIED. THE GEOMETRIC REQUIREMENTS OF STANDARD SHEET M502-17, NOTE 54, DO NOT APPLY TO THE SLAB CONTAINING THE DRAINAGE STRUCTURE.
3. PLACE A 300 mm LONG 1½” GR蟹E 420 STEEL PENCIL CENTER EXPANSION JOINT CEMENT CONCRETE STRUCTURE AT A SPACING OF 1200 mm AND 1600 mm BETWEEN JOINTS. AS SHOWN IN DETAIL 61, MAINTAIN A MINIMUM 20 mm CLEARANCE BETWEEN THE BARS AND THE STRUCTURE JOINTS. JOINT BARS, THE BARS MAY BE BENT TO ACHIEVE CLEARANCES.
4. USE CALIBRATED WELDED WIRE MESH: 1200 mm X 1200 mm, WEAVE 1/2” WIRE MESH AND ALL JOINTS, JOINT BARS, AND UTILITIES.
5. IF THE DRAINAGE STRUCTURE WILL NOT BE ROUTINELY EXPOSED TO TRAFFIC (E.G., SHOULDER, CIRCLE AREA, OR MEDIAN), REPLACE THE TRANSVERSE EXPANSION JOINTS WITH ISOLATION JOINTS.
6. EVENLY SPACING THE END GUSSET BETWEEN THE LONGITUDINAL JOINTS, DO NOT SPANN AN UNDERT-EXPANSION JOINT WITH A TRANSVERSE JOINT SUPPORT. USE SEPARATE SUPPORTS ON EITHER SIDE OF THE UNDERT-EXPANSION JOINT.

SECTION A-A DRAINAGE STRUCTURE ISOLATION

EXPOSED TO TRAFFIC CONDITIONS SHOWN SEE NOTE 51
CONDITION T ON SHEET M502-10

GENERAL NOTES:

1. SEE GENERAL NOTES AND LEGENDS ON SHEET M502-17.
2. MAINTAIN 5.5 m SLAB LENGTHS. SLABS MAY BE LENGTHENED TO 8.0 m TO PREVENT COMPLETE WITH STRUCTURE. IF ADJACENT SLABS MEET SHEET M502-17, NOTE 54 ARE SATISFIED. THE GEOMETRIC REQUIREMENTS OF STANDARD SHEET M502-17, NOTE 54, DO NOT APPLY TO THE SLAB CONTAINING THE DRAINAGE STRUCTURE.
3. PLACE A 300 mm LONG 1½” GR蟹E 420 STEEL PENCIL CENTER EXPANSION JOINT CEMENT CONCRETE STRUCTURE AT A SPACING OF 1200 mm AND 1600 mm BETWEEN JOINTS. AS SHOWN IN DETAIL 61, MAINTAIN A MINIMUM 20 mm CLEARANCE BETWEEN THE BARS AND THE STRUCTURE JOINTS. JOINT BARS, THE BARS MAY BE BENT TO ACHIEVE CLEARANCES.
4. USE CALIBRATED WELDED WIRE MESH: 1200 mm X 1200 mm, WEAVE 1/2” WIRE MESH AND ALL JOINTS, JOINT BARS, AND UTILITIES.
5. IF THE DRAINAGE STRUCTURE WILL NOT BE ROUTINELY EXPOSED TO TRAFFIC (E.G., SHOULDER, CIRCLE AREA, OR MEDIAN), REPLACE THE TRANSVERSE EXPANSION JOINTS WITH ISOLATION JOINTS.
6. EVENLY SPACING THE END GUSSET BETWEEN THE LONGITUDINAL JOINTS, DO NOT SPANN AN UNDERT-EXPANSION JOINT WITH A TRANSVERSE JOINT SUPPORT. USE SEPARATE SUPPORTS ON EITHER SIDE OF THE UNDERT-EXPANSION JOINT.

SECTION B-B DRAINAGE STRUCTURE ISOLATION

EXPOSED TO TRAFFIC CONDITIONS SHOWN SEE NOTE 51
CONDITION T ON SHEET M502-10

GENERAL NOTES:

1. SEE GENERAL NOTES AND LEGENDS ON SHEET M502-17.
2. MAINTAIN 5.5 m SLAB LENGTHS. SLABS MAY BE LENGTHENED TO 8.0 m TO PREVENT COMPLETE WITH STRUCTURE. IF ADJACENT SLABS MEET SHEET M502-17, NOTE 54 ARE SATISFIED. THE GEOMETRIC REQUIREMENTS OF STANDARD SHEET M502-17, NOTE 54, DO NOT APPLY TO THE SLAB CONTAINING THE DRAINAGE STRUCTURE.
3. PLACE A 300 mm LONG 1½” GR蟹E 420 STEEL PENCIL CENTER EXPANSION JOINT CEMENT CONCRETE STRUCTURE AT A SPACING OF 1200 mm AND 1600 mm BETWEEN JOINTS. AS SHOWN IN DETAIL 61, MAINTAIN A MINIMUM 20 mm CLEARANCE BETWEEN THE BARS AND THE STRUCTURE JOINTS. JOINT BARS, THE BARS MAY BE BENT TO ACHIEVE CLEARANCES.
4. USE CALIBRATED WELDED WIRE MESH: 1200 mm X 1200 mm, WEAVE 1/2” WIRE MESH AND ALL JOINTS, JOINT BARS, AND UTILITIES.
5. IF THE DRAINAGE STRUCTURE WILL NOT BE ROUTINELY EXPOSED TO TRAFFIC (E.G., SHOULDER, CIRCLE AREA, OR MEDIAN), REPLACE THE TRANSVERSE EXPANSION JOINTS WITH ISOLATION JOINTS.
6. EVENLY SPACING THE END GUSSET BETWEEN THE LONGITUDINAL JOINTS, DO NOT SPANN AN UNDERT-EXPANSION JOINT WITH A TRANSVERSE JOINT SUPPORT. USE SEPARATE SUPPORTS ON EITHER SIDE OF THE UNDERT-EXPANSION JOINT.

GENERAL NOTES:

1. SEE GENERAL NOTES AND LEGENDS ON SHEET M502-17.
2. MAINTAIN 5.5 m SLAB LENGTHS. SLABS MAY BE LENGTHENED TO 8.0 m TO PREVENT COMPLETE WITH STRUCTURE. IF ADJACENT SLABS MEET SHEET M502-17, NOTE 54 ARE SATISFIED. THE GEOMETRIC REQUIREMENTS OF STANDARD SHEET M502-17, NOTE 54, DO NOT APPLY TO THE SLAB CONTAINING THE DRAINAGE STRUCTURE.
3. PLACE A 300 mm LONG 1½” GR蟹E 420 STEEL PENCIL CENTER EXPANSION JOINT CEMENT CONCRETE STRUCTURE AT A SPACING OF 1200 mm AND 1600 mm BETWEEN JOINTS. AS SHOWN IN DETAIL 61, MAINTAIN A MINIMUM 20 mm CLEARANCE BETWEEN THE BARS AND THE STRUCTURE JOINTS. JOINT BARS, THE BARS MAY BE BENT TO ACHIEVE CLEARANCES.
4. USE CALIBRATED WELDED WIRE MESH: 1200 mm X 1200 mm, WEAVE 1/2” WIRE MESH AND ALL JOINTS, JOINT BARS, AND UTILITIES.
5. IF THE DRAINAGE STRUCTURE WILL NOT BE ROUTINELY EXPOSED TO TRAFFIC (E.G., SHOULDER, CIRCLE AREA, OR MEDIAN), REPLACE THE TRANSVERSE EXPANSION JOINTS WITH ISOLATION JOINTS.
6. EVENLY SPACING THE END GUSSET BETWEEN THE LONGITUDINAL JOINTS, DO NOT SPANN AN UNDERT-EXPANSION JOINT WITH A TRANSVERSE JOINT SUPPORT. USE SEPARATE SUPPORTS ON EITHER SIDE OF THE UNDERT-EXPANSION JOINT.

GENERAL NOTES:

1. SEE GENERAL NOTES AND LEGENDS ON SHEET M502-17.
2. MAINTAIN 5.5 m SLAB LENGTHS. SLABS MAY BE LENGTHENED TO 8.0 m TO PREVENT COMPLETE WITH STRUCTURE. IF ADJACENT SLABS MEET SHEET M502-17, NOTE 54 ARE SATISFIED. THE GEOMETRIC REQUIREMENTS OF STANDARD SHEET M502-17, NOTE 54, DO NOT APPLY TO THE SLAB CONTAINING THE DRAINAGE STRUCTURE.
3. PLACE A 300 mm LONG 1½” GR蟹E 420 STEEL PENCIL CENTER EXPANSION JOINT CEMENT CONCRETE STRUCTURE AT A SPACING OF 1200 mm AND 1600 mm BETWEEN JOINTS. AS SHOWN IN DETAIL 61, MAINTAIN A MINIMUM 20 mm CLEARANCE BETWEEN THE BARS AND THE STRUCTURE JOINTS. JOINT BARS, THE BARS MAY BE BENT TO ACHIEVE CLEARANCES.
4. USE CALIBRATED WELDED WIRE MESH: 1200 mm X 1200 mm, WEAVE 1/2” WIRE MESH AND ALL JOINTS, JOINT BARS, AND UTILITIES.
5. IF THE DRAINAGE STRUCTURE WILL NOT BE ROUTINELY EXPOSED TO TRAFFIC (E.G., SHOULDER, CIRCLE AREA, OR MEDIAN), REPLACE THE TRANSVERSE EXPANSION JOINTS WITH ISOLATION JOINTS.
6. EVENLY SPACING THE END GUSSET BETWEEN THE LONGITUDINAL JOINTS, DO NOT SPANN AN UNDERT-EXPANSION JOINT WITH A TRANSVERSE JOINT SUPPORT. USE SEPARATE SUPPORTS ON EITHER SIDE OF THE UNDERT-EXPANSION JOINT.
TELESCOPING MANHOLE CASTING (CONDITIONS 'K' & 'L' ON SHEET M502-18)

DETAIL 'A'
SINGLE SLAB ISOLATION
EXPOSED TO TRAFFIC CONDITION SHOWN (SEE NOTE 4)

NON-TELESCOPING MANHOLE CASTING (CONDITIONS 'J' & 'O' ON SHEET M502-18)

DETAIL 'D'
SINGLE SLAB ISOLATION
EXPOSED TO TRAFFIC CONDITION SHOWN (SEE NOTE 4)

DETAIL 'E'
TWO SLAB ISOLATION
EXPOSED TO TRAFFIC CONDITION SHOWN (SEE NOTE 4)

OFFSET SINGLE SLAB ISOLATION
EXPOSED TO TRAFFIC CONDITION SHOWN (SEE NOTE 4)

GENERAL NOTES:
1. SEE GENERAL NOTES AND LEGEND ON SHEET M502-17.
2. CENTER THE MANHOLE CASTING LONGITUDINALLY BETWEEN TRANSVERSE JOINTS - 550 mm.
3. MAINTAIN 3.5 m SLAB LENGTHS; SLABS MAY BE LENGTHENED TO 5.5 m TO REDUCE JOINTS WITH STRUCTURES IN ADJACENT LANES.
4. TRANSVERSE JOINTS BETWEEN THE MANHOLE CASTING AND THE DRAINAGE STRUCTURE ARE INCLUDED IN THE LONGITUDINAL JOINTS.
5. ENSURE SPACE BETWEEN JOINTS IS 100 mm.

DETAIL SELECTION PROCESS:
TELESCOPING CASTING DETAILS

GENERAL NOTES:
1. TELESCOPING CASTINGS MUST MEET THE REQUIREMENTS OF 6535, FRAMES AND GRATES.
2. USE STANDARD COVERS FROM THE CURRENT M6535 STANDARD SHEET.
3. THE USE OF TELESCOPING CASTINGS REQUIRE:
   a) THE CASTING MUST BE CENTERED LONGITUDINALLY BETWEEN TRANSVERSE JOINTS 0.500 m.
   b) THE ROOF OF THE UTILITY STRUCTURE MUST BE A MINIMUM OF 400 mm BELOW THE PAVEMENT SURFACE.
   c) THE CASTING TYPE AND SIZE MUST BE AVAILABLE WITH THE TELESCOPING FEATURE. SEE THE CURRENT M6535 STANDARD SHEET.
4. REFER TO THE CURRENT M6532 STANDARD SHEETS FOR TELESCOPING CASTING PLACEMENT DETAILS.

TELESCOPING MANHOLE CASTING

TEMPORARY SUPPORT RING
SEE DETAIL BELOW

NOTES: ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
METRIC STANDARD SHEET
TELESCOPING MANHOLE CASTING & RING
APPROVED:
ISSUED UNDER ER 20-167
DEPT CHIEF ENGINEER
M65-14