

TURRET COMPARISON DATA  
TURRETS SECTION - COMBAT GUNNERY OFFICERS COURSE - 1 Nov 44

|                 | BENDIX UPPER                     | BENDIX CHIN                                    | EMERSON                                             | SPIERRY UPPER                    | SPIERRY LOWER                       | MOTOR PROD                              | MARTIN                                                                                      |
|-----------------|----------------------------------|------------------------------------------------|-----------------------------------------------------|----------------------------------|-------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------|
| T.O.            | 11-45A                           | 11-45AA                                        | 11-45H                                              | 11-45C                           | 11-45C                              | 11-45J                                  | 11-45B                                                                                      |
| Model           | A-9B                             | A-16                                           | A-15                                                | A-1A                             | A-2A B17<br>A-2B                    | A-6-B                                   | B26-250CE1(14)<br>B24-250CE5(15)<br>B34-250CE7<br>A30-250CE8<br>A20-250CE10<br>YB40-250CE11 |
| Aircraft        | B25                              | B-17G                                          | B-24                                                | B-17                             | A-13 (B24)                          | B-24 <del>PBEX</del>                    |                                                                                             |
| Location        | Upper Ford                       | Nose                                           | Nose                                                | Upper<br><i>to Pilot Comp</i>    | Belly of<br>Fuselage                | Tail                                    | Upper                                                                                       |
| Cone of Fire    | Az 360°<br>El 82°<br>(0 to + 82) | Az 172°<br>(86-0-86)<br>El 72°<br>(+26 to -46) | Az 150°<br>(75-0-75)<br>El 110°<br>(+60 to -50)     | Az 360°<br>El 90°<br>(-5 to +85) | Az 360°<br>El Low 90°<br>(0 to -90) | Az 125°<br>El 115°<br>(-44 to +71)      | Az 360°<br>El 91 1/2°<br>(-6 1/2 to +85)                                                    |
| Armament        | 2 cal .50 MG                     | 2 cal .50 MG                                   | 2 cal .50MG                                         | 2 cal .50 MG                     | 2 cal .50 MG                        | 2 cal .50 MG                            | 2 cal .50 MG                                                                                |
| Armor           | None                             | None                                           | Curved 3/8"<br>Flat 5/8"<br>Hinged 3/8"<br>2" Glass | None                             | Seat 3/8"<br>from seat to<br>door   | 2" Glass <i>82A</i><br><i>3/8" A.P.</i> | 2 Pieces<br>3/8" Thick                                                                      |
| Ammo.Capacity   | 880 rds.                         | 730 rds.                                       | 1400 rds.                                           | App 800 rds.                     | <i>1050</i><br>1025 rds.            | App 1200 rds.                           | 800 rds.                                                                                    |
| Solenoids       | G-9, G-4A                        | G-4A                                           | G-11                                                | G-11                             | G-11                                | G-11                                    | <del>G-4A</del> , G-11                                                                      |
| Harmonization   | Field                            | Field                                          | Field                                               | Field                            | Field                               | Field                                   | Field                                                                                       |
| Stowed Position | Az 180°<br>El 0°                 | Az 0°<br>El 0°                                 | Az 0°<br>El 0°                                      | Az 180°<br>El +5 to 20°          | Az 180°<br>El 0°                    | Az 180°<br>El 0° <i>+30°</i>            | Az 180°<br>El 0°                                                                            |

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TURRET COMPARISON DATA (CONT'D)

|                             | BENDIX UP.              | BENDIX CHIN     | EMERSON               | SPERRY UPPER         | SPERRY LOWER         | MOTOR PROD.                        | MARTIN                                                             |
|-----------------------------|-------------------------|-----------------|-----------------------|----------------------|----------------------|------------------------------------|--------------------------------------------------------------------|
| Basic Prin. of Operation    | Electrical              | Electrical      | Electrical            | Electro-Hydraulic    | Electro-Hydraulic    | Hydraulic                          | Electrical                                                         |
| Types of Sights             | N-6A, N-8, K-13, K-15   | N-6A, N-8, K-13 | N-6A, N-8, K-11, K-13 | K-3, <del>K-12</del> | K-4, <del>K-16</del> | N-6A, N-8, K-10, K-13              | <del>N-6A, N-8, K-8, K-9, K-13</del>                               |
| Manual Means of Firing Guns | No                      | No              | Yes                   | No                   | No                   | Yes                                | Yes                                                                |
| Turret Drive                | Gear Trains             | Gear Trains     | Gear Trains           | Gear Trains          | Gear Trains          | Hydraulic Jacks                    | Gear Trains                                                        |
| Type of Limit Stops         | Electrical              | Electrical      | Electrical and Mech.  | Mechanical           | Mechanical           | <del>Mechanical</del><br>Hydraulic | 3-Stops - 2 <sup>micro</sup> variable<br>Electrical and Mechanical |
| Weight without Guns         | 525 lbs.                | 425 lbs.        | 465 lbs.              | 890 lbs.             | 1000 lbs.            | 477 lbs.<br><del>615 lbs.</del>    | 575 lbs.                                                           |
| Type of Charging Unit       | Mechanical Foot Charger | Hydraulic       | Mechanical Hand Lever | Pulley and Cables    | Pulley and Cables    | Pulley and Cables                  | Pulley and Cables                                                  |
| Emergency Operation         | No                      | No              | Yes                   | No                   | Yes                  | Yes                                | Yes                                                                |
| Booster Motors              | No                      | No              | Yes                   | Yes                  | No                   | Yes                                | Yes                                                                |
| Direction of Feed           | From Inside             | From Outside    | From Inside           | From Inside          | From Outside         | From Inside                        | From Inside                                                        |
| Fire Interrupter            | Profile Type            | None            | None                  | Profile Type         | Profile Type         | None                               | Profile Type                                                       |

TURRET COMPARISON DATA (CONT'D)

|                                    | BENDIX UP.                   | BENDIX CHIN        | EMERSON                               | SPERRY UPPER                  | SPERRY LOWER             | MOTOR PROD.                                               | MARTIN                                                                                                                      |                 |
|------------------------------------|------------------------------|--------------------|---------------------------------------|-------------------------------|--------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------|
| Location of Heated Suit Receptacle | Above right knee             | Right side of ship | By right ankle                        | Front of Chest                | Underneath seat          | Right Bulk-head                                           | Left Elbow                                                                                                                  |                 |
| Location of Trouble Light          | Above left knee              | None               | Above left Shoulder                   | Forward of right should.      | Above and right of head  | In right shldr. recess                                    | Right Elbow                                                                                                                 |                 |
| Location Oxy-gen Regulator         | Right Knee                   | Right side of ship | Above right shoulder                  | Front of Gunner               | Underneath seat          | <sup>in</sup> <del>over</del> left shoulder <i>Recess</i> | Right Elbow                                                                                                                 |                 |
| Location of Interphone Leads       | Beneath right control handle | Right side of ship | Below control handles                 | By left shoulder              | By left knee             | By right shoulder                                         | At right side                                                                                                               |                 |
| Tracking Speeds /sec               | N<br>AZ 12°<br>El 12°        | H<br>33°<br>33°    | N<br>Az 20°<br>El 16°                 | H<br>45°<br>30°               | N<br>AZ 0°<br>El 0°      | H<br>45°<br>30°                                           | N<br>Az 0°<br>El 0°                                                                                                         | H<br>45°<br>30° |
| Location of Interphone Jack Box    | Left wall of fuselage        | Right side of ship | Cradle support outboard side left gun | Left fuselage opposite turret | Top fuselage over turret | Over right shoulder                                       | (old)right side<br>(new)left wall of fuselage<br><br>B. 11 E57<br>a 1/2 ft from front.<br><br>Truision block<br>very mount. |                 |