

Index

- AIRBORNE troops, 54, 241-51, 289-91, 418
AIRCRAFT hit by flak, 260
AIR OP, 44, 107, 114, 117, 434, 439
location of mortars by, 434, 439
AIR photographs: see PHOTOGRAPHS, air
AMMUNITION dump, bombing of, 281
ANTI-PERSONNEL MINES, 91
ANTI-TANK GUNS,
actions in Ardennes, 450-1
in Op. Bluecoat, 91
in Op. Goodwood, 81-3
in Op. Wellhit, 117
in the Ardennes, 51
losses against tanks, 443-46
self-propelled, success of, 416, 419-20, 443-8
towed, success of, 443-8
value of infantry support, 443-5
ANTI-TANK MINES, 117-8, 395, 399-401, 416-7
ARDENNES,
air attack on enemy armour, 51, 207-16
anti-tank guns in, 443-51
anti-tank gun/tank actions, 449-51
ARDENNES OFFENSIVE,
Air Forces contribution
to stemming of, 51, 153-6, 208-9
ARDENNES SALIENT,
German tank losses in, 213, 449-51
ARGENTAN, 139, 181, 186
ARMOURED troop carriers, 168, 171, 175, 187-8, 201, 204-5, 209
ARMOUR,
penetration of British, 395-8, 406
penetration of German, 403-6
ARMOUR PIERCING SHOT:
see TANK CASUALTIES
ARMOUR, thickness of, 398
ARTILLERY, ACCURACY:
see PREDICTED FIRE
ARTILLERY BOMBARDMENT,
weight of, 113, 116-7, 130, 243, 253, 346-7, 353-5, 361-72
ARTILLERY,
fire against transport, 176-80, 187-8
meteor, GL III used for, 325-30
ARTILLERY,
morale effect: see MORALE EFFECTS
OP, 117
rockets, 60, 362
self-propelled on the beaches, 379-91
support in Op. Bluecoat, 91, 93
support in Op. Totalise, 98
support in Op. Undergo, 134-6
support in Op. Wellhit, 112-7
ASSAULT GUNS:
see ARTILLERY, self-propelled
ATTACK,
proportion of casualties occurring in, 427-8
AVRANCHES, 44, 173
AVRE, 108, 117-8
BASTOGNE, 215
BAUCHEM, heavy bombardment paralised
resistance at, 49, 353-4
BERNAY, 46-7, 194
BLOCKING roads by bombing, 75, 79-80, 84-5, 95-6, 99-100, 106, 117-8, 139-52, 154-6, 158
BLUECOAT, operation, 45, 87-93
BOCHOLT,
bombing of, 158-9, 160
AA defences of, 251
BOMB ANALYSIS UNIT, 220-1, 238
BOMB CRATERS, density of, 73, 79-81, 99-101, 139-40, 143-4, 163-4, 263-4, 266, 279-81
effects on traffic, 73, 79, 95-6, 100-1, 108, 283-6
sizes of, 79-80, 90, 99-103, 136, 279-81, 283-6
BOMB FRAGMENTS, 75, 79-80, 90, 210-11, 279-81, 283
BOMB FUZES, 75, 87-8, 101, 113-4, 136, 139, 279, 283-287
BOMBING,
accidental, on own troops, 279-81
accuracy of fighter bombers, 243-4, 274-8, 287-8
accuracy of heavies, 71-2, 89, 95-7, 107-8, 110-1, 113-4, 154-6, 263-4
accuracy of mediums, 111, 143-52, 242, 275, 278
effects of wet ground on, 52, 80, 283-6
effects on bridges, 139-52, 156, 163-4, 167, 197
effects on buildings, 80-1, 95-7, 99-101, 139-40, 252, 255-9
effects on communications, 111-2, 115, 159, 264
effects on concrete emplacements, 112, 264-5
effects on gun positions, 72-3, 79-80, 84-5, 103-5, 107-8, 109-11, 113-4, 125, 136, 242-3, 251-9, 263-6, 279-82
effects on Headquarters, 72, 100-1, 279-82
effects on morale, 72, 80-4, 91-3, 95-7, 99-100, 105, 107-8, 110-1, 157-9, 67-70, 208-9, 264, 287-8
effects on personnel, 73-4, 104-5, 112-3, 131-2, 158, 242-3, 252-60, 279-82
effects on railways, 153-4, 159
effects on roads, 73-4, 79-80, 95-6, 99-100, 139-43, 154-6, 159-60
effects on supplies, 73-4, 153-6, 208-9
effects on trenches, 72-3, 89
effects on vehicles, 72-3, 75, 84-5, 100-1, 183-4, 194-5, 201-2, 279-82
BOMB LOADS
in Op. Bluecoat, 87-8
in Op. Charnwood, 71-2
in Op. Infatuate, 266
in Op. Plunder, 160-1, 252
in Op. Totalise, 95-7
in Op. Wellhit, 112
BOMBS,
cluster (fragmentation), 242-4, 255-9
fragmentation, 79-80, 90, 113, 136, 139-40, 214, 242, 279-82
BOULOGNE,
assault on, 47-8, 107-36
counter battery at, 114-7
morale effects of arty at, 117, 131-4
BRESKENS POCKET,
air support in, 219-20
artillery accuracy in, 311-23
BRIDGES,
attacks by bombers on, 139-52, 156, 163-4, 167, 197-8
rate of traffic flow in Rhine crossing, 469-71
BRIDGING, effect on speed of advance, 418-9
BUFFALOES (LVTs) in river crossing, 465, 467-8, 472-3
BULLDOZERS used after bombing, 73-4, 163-4
BUILD-UP, speed of, in Rhine crossing, 463-73
CAEN, bombing of, 42-3, 71-5
CAGNY, 83-5
CALAIS, 47, 134-6, 221, 268
CALIBRATION of guns, 303-4, 314, 322-3
CAMOUFLAGE, 115, 208-9
CASUALTIES,
British, 90-3, 95-8, 107-9, 112-3, 115-6, 133, 248-9, 279-82, 353-6, 361-3, 25-30, 256-8
due to artillery, 107-8, 112-3, 115-6, 132, 248-9, 269-70
due to bombing, 72-3, 112-3, 132, 157-9, 253-9, 279-82
CASUALTIES, INFANTRY OFFICERS,
appointments of, 425-6
mortality ratios, 426-8
occupation at time of, 426-9
phase of battle in which occurring, 426-8
CASUALTIES, INFANTRY OFFICERS,
proportion to other rank casualties, 425-6
CASUALTIES, INFANTRY OFFICERS,
reduction in, 428-30
weapons causing, 426-8
CASUALTIES (TANK PERSONNEL)
due to Panzerfaust, 456-8
MRC team survey of, 453-4
CASUALTIES, TANK:
see TANK CASUALTIES
CHAMBOIS, 186-7
CHARNWOOD, operation, 71-7
CHURCHILL tanks, 91, 97, 108, 284

- CIVILIANS, interrogation of, 43, 47-8, 64, 157, 182, 186, 191, 196-7, 208, 214, 241, 244, 259
- CLIPPER, operation, morale effects of artillery in, 353-8
- CLUSTER BOMBS (fragmentation), 242-4, 253-60
- COASTAL BATTERIES, 40-1, 49, 111, 134-6, 263-72, 379-91
- COBLENZ, bombing of, 153
- COBRA, operation, 167
- COLOGNE, bombing of, 153
- COLOMBELLES, 84-5, 281
- COMET tanks, 415, 417
- COMMAND POST WORK, effect on artillery accuracy, 295-7, 300-4
- COMMUNICATIONS, cut by artillery, 115, 253, 339-40, 361 cut by bombing, 111-2, 115, 159, 264, 266
- CONCRETE EMBLACEMENTS, 112, 118, 120, 263-71
- CORMELLES, accidental bombing of, 279-81
- COUNTER BATTERY at Boulogne, 107-8, 113-7, 130 destruction of enemy guns, 130, 242-3, 253, 273-4, 337-9, 344-5 during bombing attacks, 113-4, 337-8 effect in reducing infantry casualties, 430 in operation Veritable, 337-48 in Rhine crossing, 243-5, 253 location of enemy batteries, 113-5, 337-9 neutralisation, 116-7, 130, 242-3, 253, 338-9, 346-8
- COUNTER MORTAR, effect in reducing infantry casualties, 430
- COUNTER MORTAR, LOCATION by Air OP, 434-5, 438-9 by aural sound bearings, 433-4 by air photographs, 433-4 by crater examination, 436 by flash spotting, 434-5, 438-9 by four pen recorders, 434-5, 438-9 by GL III, 434-6, 438-9 by sound ranging, 434-5 by timings, 436 by visual spotting, 434-5
- COUNTER MORTAR, number of enemy mortars on Divisional Front, 437-8 organisation of, 431-3 relative success of location methods, 432-4 requirements for effective, 437-8
- CRAB, 118
- CRATER BOMBING for interdiction, 143-52
- CRATERS, effects on tank going, 107-8, 117-8 in roads, 59, 72, 79-80, 95-6, 99-101, 107-8 in wet ground, 59, 283-6 location of mortars by examination of, 436-7 RP, 60, 187-8 shell, 59, 116-7 sizes of, 59-60, 79-80, 90, 99-100, 279-81, 283-4, 286
- CROCODILES, 108, 119
- CROMWELL tanks, 410-1, 415
- CUILLERVILLE, 84-5
- CUVERVILLE, 79, 84-5
- DAKOTA transport aircraft, 247-9
- DEBRIS from bombing, 73-4, 80-1, 84-5, 95-6, 99-101
- DEFENCE OVERPRINT, 57, 88-9, 103, 115
- DEFENCE, proportion of casualties occurring in, 427-8
- DEMOUVILLE, 79, 84-5
- DIVES, river line, 140
- DOMBURG, coastal defences at, 268-70
- DORSTEN, bombing of, 158-61
- DUKWs in river crossing, 469
- DUMMY GUN POSITIONS, 61, 107, 109-11
- ELBE, crossing of, 416
- ELBEUF, river crossings at, 197
- FALAISE, 45-6, 140, 163-4, 181, 412
- FAUSTPATRONEN, 189, 453-60
- FCP, 109-10
- FERRY sunk by bombs, 196-8
- FIGHTER BOMBERS against gun positions, 109-11, 134-6, 220-1, 242-4, 255-7, 269-71 against traffic, 139-40, 153-4, 182-4 in Op. Goodwood, 84 in Op. Varsity, 242-4, 255-7 in Op. Veritable, 274-8 in Op. Wellhit, 109-11, 125 in the Ardennes, 153-6, 207-16
- FLAILS, 108, 118
- FLAK GUNS used in ground role, 116-7, 120-1, 245-6, 248-9
- FLAK POSITIONS attacked by RP, 110-1, 242-4, 255-7 bombing of, 110-1, 242-3, 251-3 shelling of, 242-3, 252-3, 273-4
- FLAME THROWING Churchills, 97, 119
- FLASH SPOTTING, location of mortars by, 434-5, 438-9
- FONTENAY LE MARMION, 95-6
- FOO, 117
- FOUR PEN RECORDER, 435, 438-9
- FRAGMENTATION BOMBS, 79-80, 90, 136, 139-40, 214, 242-3, 279-81
- FUZES of bombs, 75, 87-8, 101, 103, 113-4, 136, 139-40, 279-81, 283-6
- GELENKIRCHEN, morale effects of artillery at, 48, 353-5
- GIBERVILLE, 79
- GL III, location of mortars by, 435-6, 438-9 used for wind in artillery meteor, 49, 325-30
- GLACIS PLATE of German tanks, 405
- GLIDER PILOTS' reports, 241, 245-9, 289-90
- GLIDERS, fires in, 247-8, 289 height of release, 246-9 hit by flak, 245-8 unloading of, 245, 289-90
- GOODWOOD, operation, 43, 79-85
- GUNS abandoned by crew, 61-2, 187-9 destruction by artillery, 130, 242-3, 252-3, 337-9, 344-5 effects of bombs on, 72-3, 79-80, 84-5, 103-5, 107-8, 109-11, 113-4, 125, 136, 242-3, 252-60, 263-6, 279-81 effect of RP on, 109-11, 134-6, 220-1, 242-4, 255-60, 270 location of enemy, 113-5, 337-9
- HEAVY BOMBERS, 45-6, 71-2, 79-81, 84-5, 87-8, 95-6, 99-100, 107-8, 111-3, 139-40, 163-4, 263-4, 266
- HIGH EXPLOSIVE SHELLS, casualties due to, 428
- HOLLOW CHARGE projectiles, 44, 399-401, 415-20, 453-60
- HONRIVILLE, 115, 118
- HORSE-DRAWN TRANSPORT, 147-9, 150, 152, 158-9, 186, 191, 196, 214, 244
- HOSTILE BATTERY LISTS, 57, 107-8, 114-5, 241-2, 251-2
- HOUFFALIZE, bombing of, 154-6, 211
- INCENDIARY BOMBS, 207-8, 210-11, 287-8
- INFANTRY assisting tanks to clear pockets of resistance, 216-7 attacking tanks, 216-7, 453-60 officer casualties, 48, 425-30 supporting anti-tank guns, 443-5, 449-51
- INFATUATE, operation, 263-71
- INTERDICTION of road communications, 143-56, 163-4
- KANGAROOS, 120-1
- KEVELAER, bombing of, 275
- LA BALEINE, air attacks at, 167
- LA CRECHE, Fort de, 120
- LA HOGUE, bombing of, 95-6, 104-5
- LAROCHE, bombing of, 154-6, 212
- LA TRESORERIE, 118-20
- LISIEUX, interdiction bombing, 143, 146
- LOCATION of enemy guns, 113-5, 337-9 of enemy mortars, 42, 431-40
- LVTs (BUFFALOES) in river crossing, 463-8
- MARSHALLING YARDS, bombing of, 153-4
- MEDICAL RESEARCH COUNCIL, team for survey of casualties among tank personnel, 53-4, 453-4
- MEDIUM BOMBERS, 79-80, 84-5, 107-11, 125, 163-4, 242-3, 252, 273-4
- METEOR errors in predicted fire, 296-8, 313-4 GL III for wind forecasting, 325-30
- MINEFIELDS, 91, 108, 118-20, 416
- MINES, anti-personnel, 427-8 personnel casualties due to, 427-8 shells used as, 118
- MOBILE RADAR CONTROL POSTS, 53-4, 273-8
- MONT LAMBERT, 111-2, 118-21
- MORALE EFFECTS OF ARTILLERY, after-effects of bombardment, 353-5, 361-2
- MORALE EFFECTS OF ARTILLERY at Boulogne, 115-7 at Geilenkirchen, 353-5 closeness of own troops to barrage, 361-2, 374
- MORALE EFFECTS OF ARTILLERY in Op. Plunder, 242-3, 253 in Op. Veritable, 338-9, 346-8, 359-74 miscellaneous references, 131-2, 135-6, 242-3, 245-6, 385-6 neutralisation, 336, 339, 346, 361-2 pepperpots, 363, 370-1, 374-5 relation to own casualties, 353-5, 361-3, 373-4 stopping movement, 353-4, 361 summary of conclusions, 373-5 time factor, 336, 338-9, 373-5 total collapse, 353-4, 361-3, 373-4

- weight and number of shells, 361-3, 374-5
- weight of bombardment, 242-3, 346, 354-5, 361-71
- MORALE EFFECTS OF BOMBING**, miscellaneous references, 73-4, 80-4, 91-3, 95-7, 99-100, 104-5, 107-8, 110-1, 157-9, 167-70, 208-9, 263-4, 287-8
- relation to own casualties, 90-3, 107-8, 112-3
- time factor, 84-5, 90-6, 106-8, 112-3, 119-20, 263-4
- MORALE EFFECTS OF FLAME**, 96-7, 119-20, 287-8
- MORALE EFFECTS OF RP**, 107-8, 134-6, 171, 204-5, 221-3, 238, 242-5, 270
- MORALE EFFECTS OF TANKS**, 117-8
- MORALE**, needed to fire Panzerfaust, 416-7, 458-60
- MORTAIN**, battle of, 44, 173-81
- MORTARS**, number of enemy, on Divisional Front, 437-8
- see also under **COUNTER MORTAR**
- MUNSTER**, A/Tk guns in forest of, 415-6, 420
- NAPALM** fire bombs, 207, 211, 214, 287-8
- NEBELWERFERS**: see under **COUNTER MORTAR**
- NEPTUNE**, operation, SP artillery in, 379-91
- NEUTRALISATION**: see under **MORALE EFFECTS**
- NIJMEGEN**, 47-8, 53-4, 409
- OFFICERS**, infantry casualties, 425-30
- OPERATIONAL RESEARCH SECTION**, composition of, 44-5, 51-3, 65-6
- OPERATION Bluecoat**, 45, 87-93
- Charnwood, 71-7
- Clipper, 353-8
- Cobra, 167
- Goodwood, 43, 79-85
- Infatuate, 263-71
- Neptune, 379-91
- Plunder, 157-62, 241-60, 464-73
- Switchback, 311-23
- Totalise, 95-8
- Undergo, 134-6
- Varsity, 241-60
- Veritable, 53-4, 275, 295-310, 337-48, 359-71
- Wellhit, 107-8
- ORLOO** church tower, attacks on, 220-1, 237-8
- OVERLOON**, RP attack near, 223
- PANTHER TANKS**, 167-71, 174-80, 187-9, 195, 207-16, 399-406
- disguised as Shermans, 208-10
- PANZERFAUST**, casualties to tank crews, 457-8
- damage to tanks, 453-60
- distribution of hits on tanks, 456-8
- morale needed to fire, 416-7, 458-60
- proportion of hits, 455-6
- proportion of British tanks destroyed by, 453-4
- ranges at which fired, 454-5
- tactics employed by and against, 458-60
- PATROLS**, casualties occurring in, 426-8
- PENETRATION** of tank armour, 395-406
- PEPPERPOTS**, 363, 370-1, 374
- PERSONNEL CASUALTIES**: see under **CASUALTIES**
- PETARD**, against pillboxes, 118
- PETROL**, shortage of, 183, 187-8, 194-5
- PHOTOGRAPHS**, air, 43, 45-6, 48, 58, 71-2, 96, 107-8, 115, 259, 263, 274, 433-4
- air, location of mortars by, 433-4
- PIAT**, 42
- PILLBOXES**, assault on, 117-21
- PILOTS' CLAIMS**, 174, 200-2, 207-8, 214, 253-60
- PLUNDER**, operation, bombing prior to, 157-62
- operation, speed of build-up, 463-73
- PONT L'EVEQUE**, interdiction bombing, 146
- POSES**, bridge at, 197-8
- PREDICTED FIRE, ACCURACY**, calibration of guns, 303-4, 313-4, 322-3
- command post work, 295-7, 300-4
- distribution of craters, 297-8, 307-9, 311-3, 315-7
- in Op. Switchback, 49, 311-23
- in Op. Veritable, 295-311
- meteor errors, 296-8, 313-4
- method of assessment, 55-6, 295-6, 311-2
- survey errors, 295-6, 299-300, 313-4, 322-3
- POW INFORMATION**, 47-8, 55-6, 58, 63-4, 95-6, 99-100, 105, 111-2, 115, 117-9, 131-6, 153-4, 157, 174-5, 201-2, 207-8, 214-5, 219, 222-3, 241-2, 245, 268-71, 348
- PROPAGANDA**, broadcasts on battlefield, 131-4, 238-9
- leaflets, 133-4
- RADAR**, advice on, 40
- GL III for locating mortars, 435-6, 438-9
- MRCP in air support, 273-8
- use of GL III for artillery meteor, 325-30, 435-6, 438-9
- RADIO-PROXIMITY FUZES**, 362
- RAFTS** in river crossing, 465-73
- RAILWAYS**, attacked by bombs, 153-4, 157-9
- RECHT**, bombing of, 153-6
- RHINE CROSSING**, airborne troops in, 241-60
- armoured pursuit after, 415-20
- lay-out of rafts and bridges, 471-2
- rate of flow of traffic over bridges, 468-73
- speed of build-up, 54, 464-73
- RISLE** river line, 143-52, 163-4
- RIVER CROSSING**, speed of build-up in Rhine assault, 464-73
- use of DUKWs, 468-71
- use of LVTs (Buffaloes), 467-8, 473
- use of rafts, 467-8, 473
- use of storm boats, 468-71
- RIVERS** as interdiction lines, 45-6, 140-56, 202-5
- ROAD COMMUNICATIONS**, interdiction bombing, 45-6, 139-60
- ROAD CUTTING** by fighter bombers, 154, 156
- ROAD DISCIPLINE**, effect on supplies, 418-9
- ROAD, OBSTRUCTION** by bombing, 72-3, 79-80, 84-5, 95-6, 99-100, 106, 117-8, 139-52, 154-8
- ROADS**, supplies delayed by bad, 418-9
- ROCKET PROJECTILES**, accuracy of, 201-2, 205, 219-21, 238-9, 243-4
- against armour, 44, 167-71, 174-80, 173-4, 187-9, 201-2, 205, 209-12, 214-5, 238-9
- against buildings, 219-39
- against gun positions, 109-11, 125, 134-6, 220-1, 242-4, 253-60, 270
- against MT, 168-70, 174-5, 183-4, 201-2, 221-2
- against personnel, 221-3
- craters of, 59-60
- morale effect of, 107-8, 134-6, 171-2, 204, 221-3, 242-5, 270
- ROCKETS**, artillery, 59-60, 362
- ROCQUAN COURT**, 98, 104-5
- ROUEN**, bombing of MT at, 194, 201-2
- vehicles crossing river at, 197
- ST. ETIENNE**, 117-21
- ST. LAMBERT SUR DIVES**, 189
- ST. MARTIN DE FONTENAY**, 96-7
- ST. VITH**, bombing of, 153-6
- SALVAGE** by enemy, 72-3, 174-6, 182-4, 207-8, 214-5, 399-401
- SANNERVILLE**, 81, 84-5
- SAPPERS** clearing mines, 117-8
- SCHELDT**, clearing estuary of, 48-9
- SCHLEIDEN**, bombing of, 153
- SCHONLAND**, Brig. B.J., Scientific Advisor to C in C, 43-4, 46, 50-1, 53
- SCIENTIFIC ADVISER** to C in C: see **SCHONLAND**
- SCOOPS** on armour of tanks, 176, 395-7, 401-2
- SECQUEVILLE LA CAMPAGNE**, 96-7
- SEINE**, armoured drive after crossing of, 409-14
- crossings of, 46, 181, 194-5, 196-8, 200, 204-5
- SEINE FERRIES**, capacity of, 196-8
- SEPT VENTS**, 90-3
- SHELL CRATERS**, 59
- SHELLS USED AS MINES**, 117-8
- SHERMAN** tank casualties, 42, 395-8
- tanks compared with German tanks, 401-6
- tanks, Panthers disguised as, 208-10
- SMALL ARMS**, proportion of casualties due to, 427-8
- SMOKE**, 119, 257-9, 268-9
- SNIPERS**, use of bombed buildings, 75, 84-5
- SOUND RANGING** at Boulogne, 115
- four pen recorders, 435, 438-9
- location mortars by, 435
- SP GUNS** Allied, 379-91, 443-8
- German, 72-3, 91-3, 171, 174-5, 183-95, 202-5, 207-8, 213-5, 415-6
- STORM BOATS** in river crossing, 468-71
- STRAFING** traffic columns, 60-1, 140, 153-6, 168-70, 182-4, 200-2, 208-9
- SUPPLIES**, held up by bombing, 73-5, 153-6, 208

SUPPLY DROPPING,
possible use of MRCP for, 274-5

SURVEY ERRORS
in predicted fire, 295-6, 299-300, 313-4,
321-2

SWITCHBACK, Op, predicted fire, accuracy,
311-28

TANK AMMUNITION, stowage of, 396-7

TANK CASUALTIES (ALLIED)
due to A/Tk guns, 83-4, 91-3, 395-8,
415-6
due to bogging, 416-8, 420
due to craters, 117-8
due to mines, 117-8, 395, 416-7
due to Panzerfaust, 416-7, 453-60
mechanical causes of, 409-11

TANK CASUALTIES (Sherman 75 mm),
395-8

TANK GOING,
effect of bomb craters on, 107-8, 117-8,
283-5
effect of soil on, 62, 416-20
maps, 417-8

TANK LOSSES
accepted by enemy before retreating,
445-6
accepted by enemy in successful
attacks, 445-6
against A/Tk guns, 444-5

TANK MAINTENANCE, 410-4

TANK PERSONNEL CASUALTIES,
MRC team for survey of, 53-4, 453-4

TANK REPAIRS,
difficulty of in rapid advance, 410-6

TANKS
abandoned by crew, 171, 174-5, 183-4,
187-9, 195, 207-8, 399-401
actions against A/Tk guns in Ardennes,
449-51
brewed-up, 395-8, 403-5
destroyed by AP shot, 174-5, 183, 187-
9, 195, 207-9, 395-8, 399-401
destroyed by bombs, 51, 84-5, 174-5,
183, 201-2, 207-8, 399-401
destroyed by crew, 60-1, 174-5, 183-4,
187-9, 195, 207-8, 399-401
destroyed by HE shell, 183, 207-8, 214-
5, 399-401
destroyed by hollow charge projectiles,
399-401, 453-60
destroyed by mines, 118, 395-6, 399-
401
destroyed by RP, 171, 174-5, 183-4,
187-9, 201-2, 205, 209-12, 214-5,
238-9, 399-401
destroyed by strafing, 201-2, 399-401
distances travelled per day, 410-1
distribution of hits on, 396-7, 405-6
in Operation Goodwood, 80-5
number of hits to knock out, 396-7,
403-5
proportion destroyed by Panzerfaust,
453-4
spare parts needed in an advance, 413-
4
speed of movement, 410-3, 415-6
supporting infantry, 96-7, 118

TANK TACTICS,
effect of terrain, 80-4, 397-8, 416-8
employed against Panzerfaust, 458-60

TELEPHONE LINES
cut by bombing, 111-2, 115, 159, 263-4,
266

TERRAIN, effect on battle, 80-1, 167-8, 397-
8, 416-8

THUNDERBOLTS, 167-8, 207-16

TIGER tanks, 51, 187-9, 195, 207-9, 212-3,
399-406

TIME FACTOR
in artillery attacks, 336, 338-9, 373-5
in bombing operations, 84-5, 89-96,
106-8, 112-3, 120, 263-4
in RP attacks, 134-5, 238, 242-5

TIMINGS, used for locating mortars, 436-7

TOTALISE, operation, 95-8

TOUQUES, river line, 143-52

TRAFFIC, rate of flow over Rhine:
see RHINE CROSSING

TRANSPORT, effects of bombing on, 72-3,
75, 84-5, 100-1, 183-4, 194-5, 201-2

TRENCHES,
bad construction causing casualties,
430
effects of bombs on, 72-3, 89

TRIER, bombing of, 153

TROARN, 84-5

TYPHOONS, 44-5, 54, 107, 109, 125, 167-8,
171, 201-2, 209-12, 219-39, 242-5,
255-60, 270

UNDERGO, operation, 134-6

UNOCCUPIED GUN SITES, 61, 115, 242-4,
252-60

VARSIITY, operation, 241-60

VEHICLES
damaged by bombing, 72-3, 75, 84-5,
100-1, 183-4, 194-5, 201-2, 279-82

VENRAY church tower, attacks on
220-1, 238

VERITABLE, OPERATION,
accuracy of predicted fire, 295-310
counter battery in, 337-47
morale effect of artillery, 359-75
use of MRCP in, 274-5

VIELSALM, bombing of, 153-6

VISUAL SPOTTING, location of mortars by,
434-5

VOLKSTURM, morale of, 157-8, 416-7

WALCHEREN, assault on, 49, 263-71
RP in assault on, 264-5, 270

WEAPONS TECHNICAL STAFF, 41-2

WEATHER,
effect on air support, 51, 144-6, 153-4,
173-4, 196-8, 204-5, 243-4, 259,
263-4, 273-5

WEIGHT AND DURATION of artillery
bombardments, 113-4, 116-7, 130,
242-3, 252-3, 346-7, 354-5, 361-71

WELLHIT, operation (Boulogne), 107-8

WESEL, bombing of bridges at, 275

WHITE PHOSPHORUS, 287-80

WIMILLE, 117-8, 120-1

WIRELESS,
casualties due to failure of, 428-30
difficulties in rapid advance, 412-3, 419