Blue Steel, Grey Thunder

A Supplement for Iron and Fire

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Edition 2.0

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1 — INTRODUCTION

This revised expansion booklet for '*Iron and Fire*' covers warships for the American Civil War and for European wars of the mid-19th Century. The data content of two previous booklets has been drawn together and laid out in the revised format used in the latest editions of '*Iron and Fire*'.

The naval side of the American Civil War has, for many years, been one of the most popular areas of naval wargaming, particularly in the UK. The main reason is probably the wide range of ship types, from stately seagoing frigates and cruisers through hastily converted river gunboats and ironclads, to the prototypical 'modern' warships in the form of the ironclads, monitors and submarines. Another reason is the small area required for a realistic game. A 6 foot by 4 foot table can easily represent a stretch of river or sea some three miles by two, allowing sizeable games to be fought out comfortably on the tabletop.

Three major wars were fought in Europe in the 1860s and 1870s. These were the Second Schleswig War (Prussia and Austria versus Denmark, 1864), the Seven Weeks War (Austria versus Italy, 1866) and the Franco Prussian war (France versus Prussia, 1870). Few single battles have had such a disproportionate effect on the development of a particular aspect of warfare than the Battle of Lissa. On a cloudy Adriatic morning in July 1866 an Austrian ironclad successfully rammed and sank an Italian ironclad that was unable to evade her opponent. Despite the lack of success of ram tactics in the recent American Civil War and the failure of other ships at the battle of Lissa to make a successful ramming attack on the enemy, naval strategists pronounced the ram, rather than the big gun, as the weapon of the future.

The other wars in this period had little impact on naval development (indeed, the naval side of the Franco Prussian war is often overlooked completely, overshadowed as it was by momentous events on land).

The main chunk of the booklet comprises a listing of all of the major and many of the lesser warships as they would be described using the '*Iron and Fire*' rules. Also included are generic types such as transports, mortar craft and barges that were a common feature of the war.

The data tables add a number of new ships and modified statistics, for example the data listing for HMS Warrior has been modified and expanded to describe both her and her sister ship Black Prince, as they were built and as rearmed in 1867. The British tables have been expanded, partially in response to requests from players who wanted to try out hypothetical actions, such as British involvement in the American Civil War.

New rules are added to expand those of the main set. The bulk of this section deals with larger forts and fortifications - whilst the sections on shore batteries presented in the original rules are fine for the smaller open and earthwork batteries these new additions will allow players to engage the tougher ACW forts such as Forts Wagner and Sumter. Be warned, they are particularly tough (as they should be) and will prove to be hard nuts to crack! The other new rules in this section introduce the howitzer as a weapon - they are treated as a cross between normal direct fire weapons and mortars, depending on the range.

Also included in this section are suggestions added to cater for wargaming using other scales. These are particularly popular for wargaming the American Civil War, with several very good ranges available. Whilst going from the intended 1/1200 scale to a smaller scale such as 1/2400 does not present a problem, using the larger models can cause some difficulties, primarily in the area of weapon ranges and movement.

Finally I'd like to thank Neil Laird, Nigel Cox and the other Trowbridge Irregulars, to Liz (resident Southern Belle) for all her help and support, and to Stuart Barnes Watson and the members of the Abbey Wood Irregulars and the Thames Valley and Wessex Branches of the Naval Wargames Society for their assistance in the playtesting and development of this supplement.

2 — NEW RULES

2.1 – Troops and Boatwork

This section covers the landing and recovery of troop units from ship to shore via boats and across landing stages. Ships boats are dealt with in 'Boat Units'. Ships may carry one Boat Unit for each size class (e.g. a Very large ship carries 5 boat units), and each boat unit can carry up to 2 stands. Each troop stand is assumed to be made up of 25 troops or their equivalent. A company has four stands (about 100 men). The number of troop stands that can be accommodated on a vessel is as follows (the number of Cargo Units that can be carried is given in parentheses).

Size	Warship	Ocean Going Transport	River Transport
VS	2 (1)	3 (1)	4 (2)
S	5 (2)	7 (2)	10 (3)
M	10 (3)	15 (4)	18 (4)
L	15 (4)	20 (5)	25 (6)
VL	20 (5)	25 (6)	30 (8)

Lowering Boats

Before any boatwork can be carried out the boats must be lowered. This takes one turn to complete, during which time the parent vessel must be stationary (in practice some headway would be kept on to keep the ship's head into wind or on a prescribed heading, but for the purposes of the game the vessel must be brought to a stop).

Loading or Crewing

The transfer of crew from a ship to its boats or vice versa takes one turn to complete. Once the boats have been crewed infantry can embark at the rate of 1 stand per boat per turn (so a Very large ship, with 5 boat units in the water, can offload 5 infantry stands per turn). Cavalry and artillery stands take a lot longer - each stand takes 5 turns to embark in a boat unit.

Boat Movement

Once loaded, the boats can move off. Maximum boat speed is 3 knots. Boats do not have turning circles, nor do they have to consider acceleration or deceleration. They are simply moved 3 inches (or suitable distance depending on the game scale being used) towards their destination. Players may wish to penalise boats moving in heavy weather. Boats never run aground.

Disembarkation

If troops are landing onshore, all troop stands in a boat unit may be landed simultaneously. It will take a certain amount of time for the troops to form up, so in the first turn following a landing troops will count as suppressed.

Boats Under Fire

If a boat unit comes under fire, treat it as if it were an infantry stand, using the amended rules for fire at troops, totalling the number of non-penetrating hits scored on the boat unit. The final number of hits becomes the roll to eliminate one stand of embarked troops and reduces the ability of the boat unit to carry troops to one stand. Two such hits will destroy the boat unit.

Towing a Ship Using Boats

Boats could also be used to tow ships on occasions. This was a slow process and was generally restricted to manoeuvring sailing vessels in calm airs or into the wind. Before a boat unit can tow a vessel a tow line must be passed, taking one turn. In order to make a successful tow the number of boat units involved must equal the size class of the ship (e.g. a Medium sized ship needs three boat units). Once a tow has been secured both ships can move off at a maximum speed of 1 knot.

Landing Directly From Ships

Troops may be landed directly to shore. To do this the ship must be brought to a halt adjacent to the landing stage, pier or beach. Passing lines and securing the ship takes a turn to complete, following which troops can disembark at the same rate at which they can embark boats. Larger vessels may not be able to get adjacent to a beach or even a dock depending on water depth (see mail rules).

2.2 – Troops On-Shore and Land Actions

It is not intended that these rules should cover land actions in any great detail. However, since many of the actions in this period involved shore based troops, especially ACW riverine actions, a basic set of rules is included.

Infantry and cavalry companies consist of 4 stands and are Medium Targets. Artillery batteries are represented by a single gun stand and a single limber stand and are Small Targets. Foot troops and batteries move 2" per turn. Mounted troops and horse batteries move 5" per turn. Batteries must spend one turn immobile whilst they unlimber before they can fire. Mounted troops must spend one turn immobile to dismount or mount up, and can only fire when dismounted.

Batteries:

Once unlimbered an artillery battery count as a 12pdr or 20pdr shore battery with armour factor of zero unless firing from prepared positions.

Artillery and Ship Fire at Troops

Ships and batteries fire at troops as if they were ships. Fire must be directed at specific targets, either infantry or cavalry companies, or artillery batteries. Each hit scores a number of Damage Points equal to the NON-PENETRATING DR of the firing gun (e.g. a 15" Smoothbore causes 3 hits). Total the DR of all the shots fired at a particular troop or artillery target.

Casualties

Every 10 points of DR destroys one infantry or cavalry stand, or an artillery battery. If there are fewer than 10 points of DR inflicted, or remaining after removing "kills", roll a d10. If the score is equal to or less than the DR number, remove another troop stand from the target company.

Suppression

If you have to roll for casualties and the dice score is 1 or 2 greater than the number required to eliminate a stand, then the target company or artillery battery is suppressed.

However, if the target unit suffers any casualties (stands removed) the entire company is suppressed automatically.

Example 1: An artillery battery is hit by 2 100pdr rifles, taking 4 hits (2 x the non penetrating DR of 2). The firing player rolls a 6. The battery is suppressed.

Example 2: A company is pasted, taking six hits from 100pdr rifles, each with a DR of 2. The total 'PV loss' of the company is therefore 12. One stand is automatically lost, and the company is suppressed, with a d10 roll of 1 or 2 causing a second loss.

Suppressed Troops

Companies and batteries may not advance or fire whilst they are suppressed. Roll a d10 for each suppressed company or battery in the Repair Phase. They recover from their suppression on a roll of 1-4. Reduce the score required by 1 for each stand lost. A company or battery may also recover from suppression if it retreats beyond the effects of enemy fire, e.g. out of range or behind cover. In such cases the base score to recover from suppression is 1-6.

Rifle Fire at Troops

Opposing troops (infantry or dismounted cavalry) can shoot at each other at ranges of 10" or less. When shooting at other troops, use the procedure above. Troops cause one hit per stand which is firing (so a 4 stand company causes 4 hits, or putting it another way, will remove an enemy stand on a d10 roll of 1-4).

Close Combat

Close combat occurs when troop stands are in contact or when combat takes place within field defences or forts (see below). Treat close combat as for rifle fire, except the number of hits caused is doubled for non-suppressed stands. If a stand is suppressed it may defend itself, but the number of hits scored is not doubled. For example, a company of 4 stands causes 8 hits, or 4 if suppressed.

Rifle Fire at Unarmoured Ships

The fire of ground troops at unarmoured ships could be quite effective. If any hits are scored from rifle fire when shooting at vessels with an AT of zero (on the engaged side) roll a d10. On a roll of 8, the SP of the vessel is reduced by 1. On a roll of 9, one gun is hit and disabled, and on a roll of 10 a critical hit is scored. Note that only one die is rolled regardless of how many rifle hits are scored.

Rifle Fire at Armoured Ships

Use the above rules, but only Critical Hits 3, 6, 7, 8, 9, and 12 are effective.

Fire at Troops in Field Defences

One of the major reasons for including troops in a naval game will be to assault and capture enemy field defences and fortifications. If you fire guns at field defences, any troops in these defences are also attacked at the same time as separate targets. The fort will be attacked using the rules in '*Iron and Fire*' section 7.17. The troops are attacked using the non penetrating DR value for each gun as already described. In certain cases only troops defending the face of the fort that is attacked will be subject to casualty rolls.

Casualties

Calculate the number of hits on the unit as normal, but apply the AT of the field defences as a reduction to the number of hits inflicted on each stand or battery.

Suppression

Companies are suppressed in the usual manner if stands are removed, or suppression will occur if the die score exceeded the "kill score" by 1 (not 1 or 2 as happens if the target is in the open). Note that if the "kill score" falls to 0 or less, the die must still be rolled and a result of 1 will suppress the company.

Example: A company is defending a fort with an AT of 6. The fort is under fire from a Union warship firing 32pdr smoothbores. These cause no damage to the fort (the firing player hits with 15 guns, but no special hits are caused). The troops within suffer 15 hits from this fire but they receive the benefit of the fort's protection. Two die rolls are made, each applying a -6 modifier. The first roll would require a 4 (10 minus 6). The dice score is 6, which does

not kill the stand (a 5 would have suppressed the company. The second roll requires a score of –1 (5 minus 6). The die score is 1 and as natural die rolls of 1 always cause suppressions, the company is suppressed.

Assault on Field Defences

Small batteries and forts may be defended by one company, larger works by one company per face. If there are no troops assigned to a battery or face it is assumed that there is one stand of defenders, made up of guns crews and other personnel. Similarly, small forts and batteries can be assaulted by one company at a time, larger works by one company per face. Each assaulting company may have one additional company supporting (to the rear within 2").

To carry out an assault the attacking company moves into contact with the fort (the supporting company, if present, remaining within 2" behind). They exchange gunfire with the defenders, then engage in close combat (note that at this stage suppression does not prevent the company from taking action). To evaluate the effect of the assault the attacking player rolls a d10, modified as shown in the upper table, then compare the total with the lower table.

Add	• The number of stands in the assaulting company (halved if suppressed) • half the number of supporting stands (halved again if suppressed) • 1 if the fort was under fire from artillery or naval guns (whether or not the gun can cause damage - suppressive effect of gunfire)
Subtract	• The AT of the fort • The number of defending stands (halved if suppressed) • 1 if any guns on that face of the fort were able to fire

Result	Effect (results do not apply to supporting stands)
0 or less	Attacking stands wiped out
1-3	Attackers repulsed, retreat 3", lose 1 stand, become suppressed
4	Attackers repulsed, retreat 3", become suppressed
5,6	Stalemate, continue action
7	Defenders suppressed
8	Defenders suppressed, lose 1 stand or withdraw
9	Defenders suppressed, lose 2 stands or withdraw
10+	Defenders eliminated, defences or fort face captured

Example: A five faced fort is under attack by Union troops. The fort is defended by a company of 4 stands. The AT of each face is 5. During movement a Union assault force reaches one of the walls. It consists of a company of 4 stands supported by another 4 stand company. Gunfire support is afforded by two sloops offshore. The defenders move to the face under attack.

Naval gunfire causes no damage to the fort, but causes 8 hits on the troops. Gunfire from the attacking company causes 4 hits, for a total of 12 hits. Two die rolls are made for casualties, with an AT modifier of -5. The scores to eliminate stands are 5 and –3. The rolls are 4 and 2. One stand is eliminated by the first die roll and therefore the defenders are suppressed. The defenders fire on the attacking company — 4 stands cause 4 hits. They roll d10 for elimination, scoring 5, so the attackers are also suppressed (the score is one greater than the required

elimination number of 4). The guns of the fort have been silenced by earlier naval bombardment. The assault on the fort begins. The Union player rolls a d10, scoring 10. To this is added 2 for the attacking stands (4 attacking stands, suppressed =2), 2 for the supporting stands (4 stands halved if supporting) and 1 for gunfire support, for a total of 15. Negative modifiers amount to 5 for the AT of the fort and 2 for the defending troops (three remaining stands, halved due to suppression, rounded up). The total is 8. The defenders would be suppressed (if they had not already been) and must either lose a stand or withdraw from the face. For the purposes of the example assume the defenders withdraw from the face of the fort. The attacking company occupies the fort face, allowing the supporting troops to follow up and enter the fort as well. Next turn the melee occurs within the fort and is carried out using normal close combat rules. Given the number of assaulting troops the fort is bound to fall.

Note: a look at the example above shows that the attacking force was lucky to achieve the success they did. In order to be successful, an assault on anything much stronger than an earthwork battery needs careful preparation, including the elimination of as many defending guns and troops as possible, and assault from as many directions as possible to overwhelm the defenders.

2.3 – Heated Shot

Although regarded as a weapon from the age of sail, the use of heated shot extended into the age of the ironclads, albeit at a much reduced level of use, due to the presence of wooden ships. Heated shot became less common because

a it could not be used in rifled guns

b use at sea presented a high risk to the firing ship

c facilities for heating shot became less common, and took a long time to warm up if they were present.

Nevertheless there were occasions when heated shot was used, and the Confederate ironclad *Virginia* is known to have carried some sub-calibre shot for use in this role.

Heated shot may be used as follows:

Heated shot may only be fired from shore based smoothbores unless its use at sea is specifically allowed in the scenario.

Furnaces take a minimum of 1 hour to prepare. Forts are allowed one furnace per face. Ships are allowed one furnace only. Each furnace can provide one heated shot per turn.

Heated shot is treated as a normal round, except:

a a "to hit" die roll of 1 means the shot has caused an accident. Roll a d10:

Die roll	Ship	Fort
1-3	firing gun explodes	Firing gun explodes
4-6	firing gun explodes, fire starts	Firing gun explodes
7-10	shot mishandled, fire starts	Shot mishandled. Gun cannot fire this turn

b if a hit is scored the round causes 1 less damage point than normal (smaller shot was generally used) - NB at least 1 point is always scored. There is a chance the shot will cause a fire - roll a d10. A fire is started on a wooden ship on a roll of 8+, or on an ironclad where the shot penetrates armour on a roll of 10+.

2.4 — Elevation and Plunging Fire

Most armoured ships had their thickest armour distributed along the ships' sides. This was fine when engaging other ships or batteries close to sea level, but against batteries on high ground, the ships often found their thinner deck taking the brunt of the enemy's fire. This section introduces the concepts of elevation (height above sea level) and plunging fire (shot and shell approaching the target's decks rather than the sides).

Elevation is expressed in terms of Levels, with each level taking in about 100 feet of height. Levels range from 0 (sea level) to 3 (about 300 feet). For the most part ships will find themselves engaged by low level batteries and other ships. All fire from Level 0 is adjudged using the current rules. If a ship is engaged from a higher Level the firing player must check to see if any of the hits are scored on the thinner decks rather than the sides. For each hit scored, roll a d6 and cross reference on the table below:

Firing gun at level:	Range				
	0"-5"	5"-10"	10"-20"	20"-30"	30"+
0	N	N	N	N	N
1	5-6	6	N	N	N
2	4-6	5-6	6	N	N
3	X	4-6	5-6	6	N

N:	Deck cannot be hit, all shots hit sides or ends
4-6, 5-6, 6:	Score required on d6 to hit deck.
X:	Weapons cannot be depressed to hit targets at this range.

Plunging Fire at Monitors

The low profile of monitor-type craft results in their modified hit location column, concentrating hits on the more exposed turrets. As shots approach the deck of the vessel the exposed proportion of lesser-protected hull compared with the thicker turret armour increases. In addition, the proportion of ships side visible compared with the overall exposed area decreases. This results in the following special rules for monitors under plunging fire.

1 In the case of plunging fire, roll on the table above to determine whether the deck or side has been hit, adding 1 to the die score (i.e. a monitor under fire from a battery at Level 2, 14 inches range, scores a deck hit on a roll of 5 or 6).

2 When rolling for hit location use the 'Other Ships' column of Gunnery Table 2.

3 If a Turret Hit is scored the full turret AT is used rather than the reduced deck AT.

Return Fire

To determine whether a ship's gun can be elevated to engage a higher level battery, consult the following table. The letters in the table show which guns can engage:

Target at level:	Range				
	0"-5"	5"-10"	10"-20"	20"-30"	30"+
0	PXBM	PXBM	PXBM	PXBM	PXBM
1	PX	PXB	PXBM	PXBM	PXBM
2	P	PX	PXB	PXBM	PXBM
3	None	P	PX	PXB	PXBM

B: Broadside or casemate mounted guns	M: Monitor guns
X: Exposed deck guns in broadside	P: Pivot mounted guns

2.5 – Cargo

Each vessel has a cargo capacity expressed in terms of the number of Cargo Units, or CUs, that it can carry. The number of CUs a ship can carry are shown below:

Size	Warship	Ocean Going Transport	River Transport
VS	1	1	2
S	2	2	3
M	3	4	4
L	4	5	6
VL	5	6	8

Cargo Units generally take up the same amount of space as four troop stands, so reduce the CU capacity for each group of four stands embarked.

Cargo Units are hit if a Weapon/Turret hit is scored. For unarmed vessels the hit affects the Cargo; in the case of armed warships the hit causes the loss of a weapon as well as damaging the cargo. In either case, total the PV loss which would have been caused by all such hits. The resulting total is the score required on a d10 to destroy one Cargo Unit. If PV loss in excess of 10 is scored, then one stand is automatically lost, and the score in excess of 10 is the score to remove a second (similarly for totals over 20 and so on). For example, a transport is pasted, taking 12 PV loss to the cargo. One unit is automatically lost, with a d10 roll of 1 or 2 causing a second loss. If the CU that is hit comprises troop stands make similar rolls for EACH stand in the affected CU. Continuing the example above, if the transport has been carrying troops, one group of four stands would have been wiped out, the next group of four stands would have rolled once for each stand, with the stand lost on a roll of 1 or 2.

2.6 – Mined Obstacles

The use of obstacles to block or partially block rivers and inlets by both sides was common during the American Civil War, primarily in defending anchorages or flotillas at rest. In a few cases the obstacles themselves were bolstered by the addition of mines. These mines were, however, just as reliable as their more regular counterparts.

If a ship encounters a mined obstacle roll on the table in Optional Rule 7.6 as normal to see if the ship penetrates the obstacle. Whether or not the ship does break through, treat it as having come into contact with a drift mine and use the rules in Optional Rule 7.1 (i.e. mine explodes on 1-2). If a hole is made in an obstacle following ships passing through the gap ignore the effects of mines.

2.7 – Shot and Shell

The standard rules make a simplifying assumption that where a gun was able to fire solid shot or explosive shells at a target the gunners would use the appropriate round. However, some players prefer the option of specifying the ammunition in use.

Solid shot

When shot is fired, use the rules as they stand with the exception that, if a hit is scored on an unarmoured target (i.e. bare wood, not thick enough to warrant an AT of 1) use the Non-Penetrating DR for the gun - shot would often pass through one side of the and out the other. Shot was also a poor performer against 'sand and turf' forts, i.e. earthwork batteries. In this case, treat the AT of the battery as 1 higher.

Explosive Shell

More effective against wooden targets (use the Penetrating DR), but poorer armour penetrating capability - if shell is used against armoured targets halve the armour penetration, rounding fractions up.

2.8 – Fire Rafts

These were occasionally used in the American Civil War, usually in an attempt to break up or destroy vessels at anchor. They are set alight and set to drift with the current. (See Current rules). They are moved after all other movement has been completed. If they come into contact with a vessel they may start a fire. Roll a d10, with a Small fire started on a roll of 1-8. Roll each turn where the raft is in contact with the ship. Rafts were usually constructed using heavily built raft bases which would burn for some time before collapsing, so they may be assumed to burn for the duration of the game or until they drift out of the playing area.

2.9 – Wargaming in other scales

Whilst "Iron and Fire" was written with 1/1200 scale models in mind, there is no reason why larger and more detailed 1/600 models could not be used instead. These are several superb ranges of ACW models in the larger scale available, notably from Peter Pig in the UK and Thoroughbred Miniatures in the US. There are also many plastic kits of nineteenth century sailing ships which can be easily converted into transports, Union frigates and Confederate raiders.

There is also no reason why 1/2400 models could not be used. There are several excellent ranges of models in the smaller scale available, which are perfectly suited to fighting out large fleet actions such as Lissa, or for smaller actions on confined tables. In addition there are several ranges of Napoleonic sailing ships in 1/2400 that can be raided to provide transports and small craft.

When playing with 1/600 scale models the ground scale should be double, i.e. 1 inch represents 50 feet. Vessels will now move 1 inch for every half knot of their current speed. Turning circle radii not affected - the circles included in the original rules erred on the side of caution (i.e. assumed the ships were not turning as tightly as they possibly could have done), so leaving the turning circles as they are is not too inaccurate, and still allows play to be contained on a standard wargames table. Gunnery ranges and other distance dependent rules and measurements will, of course increase by the same factor, but all die rolls and other rules remain exactly as they are at present.

When playing with 1/2400 scale models the ground scale should be reduced. Instead of measuring in inches all distances should be measured in centimetres. For example, referring to the gunnery tables a 12pdr smoothbore would have a maximum range of 25cm rather than 25", whilst a ship travelling at 10 knots would be moved 10cm rather than 10".

A smaller turning circle with a cm distance scale for use with 1/2400th scale is included in the latest edition of 'Iron and Fire' and can be downloaded from the publisher's website.